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ADDRESS IN PHYSIOLOGY.

BY

A. T. H. WATERS, Esq.,

LECTURER ON ANATOMY AND PHYSIOLOGY IN THE LIVERPOOL ROYAL INFIRMARY SCHOOL OF MEDICINE, ETC.

[*Concluded from page* 690.]

I NOW pass to consider briefly some of the results of recent experiments and observations with reference to the functions of the sympathetic nerve, and the influence it exercises over the processes of nutrition and secretion.

As long ago as 1727, Pourfour du Petit had ascertained, that a division of the cervical portion of the sympathetic was followed by contraction of the pupil and increased vascularity of the conjunctiva. Dupuy in 1816, Brachet in 1837, and Reid in 1838, confirmed these observations.

The researches of Claude Bernard, Dr. Augustus Waller, Dr. Budge, Dr. Brown-Séquard, and others, have proved that section of the cervical portion of the sympathetic and galvanization of the same, produce exactly opposite effects. The investigation of the phenomena resulting from experiments on this nerve, promises to throw considerable light on the various processes of healthy and morbid action.

The results of section of the sympathetic in the neck may be briefly summed up as follows:—

Contraction of the pupil; dilatation of the blood-vessels, and increased vascularization, of the parts to which the divided nerve is distributed; an increase in those actions which are considered the result of the vital properties of the parts.

On the other hand, galvanization of the divided nerve is followed by—dilatation of the pupil; contraction of the blood-vessels; diminished vascularity; and a decrease in those actions considered as the result of vital properties.

These results are now established by a vast number of experiments, and are admitted as true by all physiologists.

I may here briefly consider an important question, which has occupied much attention of late years, viz.: What is the origin of the sympathetic nerve? The experiments of Dr. Waller and of Professor Budge seem to prove that the nerve-fibres of the sympathetic going to the iris originate in the spinal cord, between the sixth cervical and the fourth dorsal vertebræ. Dr. Brown-Séquard states that the origin of these fibres is more extended still, for a section of the lateral half of the spinal cord, at the level of the fifth, sixth, and even the ninth dorsal vertebra, affects the iris in the same way as section of the sympathetic, only to a less degree. And he further mentions, in accordance with the observations of Schiff, that some of the fibres animating the iris ascend the cervical part of the cord, and most likely go up to the medulla oblongata. Observations tend to show that the nerves which supply the blood-vessels are derived, chiefly, if not entirely, from the cerebro-spinal centre. With regard to those which pass to the blood-vessels of the face, as long ago as 1852, Brown-Séquard stated that they arose from the upper part of the spinal cord, and the neighbourhood of the medulla oblongata, and that, after passing down the cord, they emerged with the last cervical and upper dorsal nerves. He has also shown that a section of the lateral half of the cord, in the dorsal region, produces in the lower limbs most of the effects produced in the head by section of the cervical sympathetic, viz.: dilatation of blood-vessels, elevation of temperature, hyperæsthesia. We have here an explanation of the increased sensibility which I have before alluded to, as following section of the white portion of the cord, on the side of section. The increased sensibility is caused by the influence of the operation on the nerves of the blood-vessels.

These results are analogous to those obtained by Mr. Lister, to whose valuable paper on the subject, in the *Philosophical Transactions*, I beg leave to refer my hearers. His experiments were made on frogs; and they afford convincing proof that the cerebro-spinal axis is the nervous centre which regulates the contraction of the blood vessels, and that this function is exercised by the whole length of the cord and the posterior part of the brain, operating through fibres which arise from the axis and pass off with the sensory and motor nerves.

I might relate numerous experiments showing the influence of section of the sympathetic in the neck on the structures of the head and face; but I must refer you to the works of M. Claude Bernard, and others, for the details of them. Nothing is more remarkable than the rapid dilatation of the blood-vessels and the increase in the temperature of the parts, which take place after such section. The increase in temperature is persistent, and in one animal operated on by Claude Bernard, it was found to exist a year and a half after the operation. Equally remarkable with the results just mentioned is that which follows galvanization, for no sooner is the cephalic segment of the divided sympathetic submitted to the influence of galvanic action, than the increased vascularity of the parts disappears, and the temperature falls below the natural standard.

The effects which follow the section of the sympathetic seem to be in great measure due to paralysis of the blood-vessels; but yet the phenomena are not altogether explicable on this supposition. The increased vascularity, no doubt, results from the dilated condition of the vessels, and the increased temperature may depend on the increased vascularity; but we are told by Claude Bernard, that the vascularity may diminish, without a corresponding diminution of temperature taking place.

The changes produced on the blood-vessels, by a section of the sympathetic, although they resemble, in some measure, those which accompany inflammatory action, yet differ from them in many important respects. No serous, or other effusions occur, unless some accidental circumstance give rise to inflammation, which may then run its ordinary course, and the parts recover their previous condition. There is further, a remarkable power possessed by these parts of resisting the influence of cold; for if an animal, the cervical sympathetic of which has been divided on one side, be placed in a temperature much below that of its own, the temperature of the sound side will sink much more rapidly than that of the injured one; and again, under the depressing influence of slow death, the same phenomena are witnessed; the parts on the side of section preserve their vitality for a longer period than those of the opposite side.

The nerves of blood-vessels are capable of being influenced by indirect, as well as direct, means; and they exhibit, under different circumstances, all the phenomena of reflex action. It has been found, by Drs. Tholozan and Brown-Séquard, that if one hand be dipped into water of a very low temperature, the vessels of the opposite hand will contract; and the more pain is felt the greater will be the contraction. It has also been shown, that excitation of the cutaneous nerves of the neck will produce a contraction of the blood-vessels of the ear. These effects must be the result of reflex action, and seem to point out the spinal origin of the vaso-motor nerves. It has also been shown that a spasm of the blood-vessels may be produced just in the same way as a spasm of muscles. A section of one-half of the spinal cord, near the medulla oblongata, is followed by the singular result of paralysis of the blood-vessels of the extremities of its own side, and a spasm of those of the opposite side—a spasm which may be so great that circulation becomes almost entirely suspended.

The various experiments which have been performed on the sympathetic nerve, tend to show the influence the spinal por-

tion of it exercises on the functions of organic life. It was long ago shown that the various processes of nutrition, secretion, and repair, might go on in an organ, when the influence it derived from the nervous centres was cut off; and there is very strong evidence that animal life can exist without the endowment of a nervous system.

But in making observations on the sympathetic nerve, we must not forget that it contains another element besides its spinal one, and we have yet to learn the exact nature of the influence which this portion exercises, and the manner in which it is effected by the various processes employed in experimenting on the nerve.

I have alluded to the fact that, by a reflex act, blood-vessels may be made to contract; and it is no less true that, by a similar act, an influence may be produced on the secretion of an organ, and on the nutrition of a part. I need scarcely give instances to prove these points. One or two familiar ones may suffice: the secretion of saliva when the stomach is irritated by food; of gastric juice when the nerves of taste are excited; the production of tears from irritation of the branches of the fifth. These are sufficient to prove the fact with regard to secretion; and of the influence of reflex action on nutrition, abundant evidence exists; but no part affords so good an opportunity of witnessing it as the eye. We know that injury to the branches of the fifth nerve, about the eye, often results in inflammation of the eye itself; and that the inflammation of one eye, especially if it be of a traumatic character, is very liable to produce inflammation of the opposite one. These results must be produced by the irritation being carried to the nervous centres, and thence reflected back.

Again, take the instance of neuralgia. How often does it cause congestion of the eye, and photophobia? M. Notta mentions that of one hundred and twenty-eight cases of neuralgia of the trigeminal nerve, the eye was congested in thirty-four, there was photophobia in eighteen, whilst a real opthalmia existed in some. We must all be familiar with instances of a similar character. Other, and even more striking examples, might be mentioned; but I must pass on. We are all aware that sudden death has sometimes occurred from drinking cold water on a hot day: from a blow on the abdomen; or any severe irritation of the abdominal sympathetic nerve. This seems to result from reflex action arresting the movements of the heart. The influence travels to the spinal cord, and is reflected along the par vagum. That this is the true explanation appears to be proved by the experiments of Brown-Séquard, who states that if the par vagum, or the spinal cord, or the splanchnic nerves, are divided, any kind of irritation may be made on the sympathetic in the abdomen, without an arrest of the heart taking place.

Again, I may instance, as the results of the reflex actions of vaso-motor nerves, the remarkable pathological changes in the internal organs, which so frequently follow extensive burns of the skin; results analogous to that so often produced by irritation of the sensitive nerves of the eye, from a prolonged use of the microscope, an inflammation attacking the eye opposite to the one used.

I might relate other examples, which show the effect of irritation of a centripetal nerve, in producing alterations in distant parts. I mention one other, and that a striking one. An operation is performed on the *cervix uteri*—a polypus is extirpated—and some days after, the actual cautery is applied to the pedicle which remains. Intense peritonitis supervenes, and the patient dies in three days. The autopsy reveals no perforation; a simple reddening of the mucous membrane of the uterus; the Fallopian tubes healthy; the spot cauterized is far from the peritoneal cavity; but yet the intestines are found covered with pus. This case, the details of which are probably familiar to most of my hearers, is a most remarkable and instructive one; not a case of inflammation, reaching the peritoneum by extension; but clearly commencing there. And to what can it be attributed, except to the irritation of the nerves of the *cervix uteri* being propagated to the spinal cord, and from thence reflected by other nerves to the peritoneum.

The influence of impressions on peripheral nerves in producing changes in the nutrition or secretion of a part, by reflex action, was long ago pointed out by one of our associates, Dr. Radclyffe Hall, in his able work on the sympathetic nerve. He there endeavoured to show that such impressions may produce reflex action of the ganglia, resulting in changes in the organic processes, over which the sympathetic presides; and further, that when the impressions reach the spinal cord, the reaction may produce every variety of spinal phenomena, and influence the organic actions of any or every organ of the body. In the inferences, deduced from his experiments, he has anticipated views of more recent investigators, to which attention of late has been much directed.

I have dwelt somewhat at length on this subject, both on account of its great practical importance, and that I believe the mechanism, by which these results are produced, is not generally admitted to be the same as that by which the reflex action of muscles is produced. And yet the researches of Müller, Stilling, Radclyffe Hall, Claude Bernard, and others, as well as those of Brown-Séquard, seem to leave no doubt of the fact. The latter author has attempted to show, by various experiments, the influence which the spinal cord exercises on these actions.

I have alluded to the internal inflammations which follow large burns, and their supposed production, by reflex action, on the vaso-motor nerves. Dr. Brown-Séquard has found that if an animal, in which the spinal cord has been divided at the level of the third or fourth lumbar vertebra, so that no irritation can be propagated from below to the viscera of the head, chest, and upper part of abdomen, have its legs burnt, and be killed two or three days after, no appearances similar to those so frequently found in man, are found in any of the viscera except the bladder and rectum; but that if the cord be divided as high as the third dorsal vertebra, and the animal be similarly treated, the abdominal viscera are found in a state of congestion, with serous infiltration, and ecchymosis in different parts.

But I feel that I am wandering somewhat from the purely physiological questions to which I ought to confine myself, and that I am trespassing on the domain of pathological inquiry. I have insensibly dwelt longer than I perhaps should have done on this subject, from its great interest, and the important practical bearings it presents.

Having thus briefly alluded to some points related to the spinal cord and the sympathetic nerve, numerous subjects at once offer themselves to me, in connexion with the encephalic portions of the nervous centres. In offering a few remarks on the present views of the functions of some of these parts, I feel somewhat relieved when I reflect that I have already occupied so much of your time, that I must rapidly bring these observations to a conclusion. I must, however, apologize for the very cursory and incomplete manner, in which I shall be compelled to treat so important a branch of my subject.

I need scarcely remind my hearers that, at the upper part of the spinal cord, and lying along the base of the brain, a series of ganglionic structures is found, completely hidden in man by the two hemispheres; but, as we trace the arrangement which exists in the various classes of animals, we find these ganglia, in some, without the superaddition of the cerebral masses. In some of the lowest vertebrata, the mere rudiments only of the hemispheres exist; and amongst the whole of the invertebrata, with but a very few exceptions, these rudiments even are entirely absent: whereas, on the other hand, as we ascend towards the higher vertebrata, we find they become more and more developed, till they attain their largest size in man. No physiologist of the present day has paid more attention to this subject than Dr. Carpenter; and the views he has been mainly instrumental in developing, with respect to the relation of the ganglia I have spoken of, to the organ of consciousness and the seat of the intelligent mind, have been most ably advanced, and have received very strong confirmation from numerous sources.

Amongst the most important points which have been advanced with respect to these encephalic ganglia, are, that they constitute not only the centres of the various organs of special sense, but of common sensation also; that they are, in fact, the seat of sensational consciousness, and the source of those consensual or instinctive actions which result from sensation, and are performed without the influence of a guiding or controlling will. Numerous facts have been brought forward, and arguments adduced, in support of the view that the *thalami optici* constitute the centres of sensation, and the *corpora striata* the centres of instinctive or sensori-motor action.

The peripheric expansion of the grey matter of the hemispheres is connected with these ganglia by means of commissural white fibres, which, on the one hand, are supposed to convey the impressions received by the sensorial centres, upwards to the grey matter, so as to give rise to perception; and, on the other hand, to carry downwards the mandates of the will to the motor apparatus, which, obeying the injunction, brings into play the particular set of muscles required for the performance of the designed movement.

There is no principle of neurological science which has

received more general assent, or is more firmly established, than that the grey matter of the nervous centres is the source of all nervous action; and, considering the hemispheres with the light of this principle, we cannot but look upon the convolutions of the cerebrum as the seat of the mental functions, the source of all psychical action and voluntary power; and the white matter as the medium by which impressions are received which, giving rise to thoughts and ideas, may eventuate in acts of the will; but when the hemispheres are absent, when there is no peripheral expansion of grey matter—no true cerebrum, in fact—mental acts do not take place, and the life of the animal is restricted to the manifestation of functions of a sensori-motor or instinctive character.

We may thus observe, from the few observations I have made, that the tendency of recent researches in the nervous system has been to separate its different portions, and to assign to each its peculiar properties and functions. There can be no doubt that the labours of Marshall Hall had a great influence in this respect, in determining the true centre of the excito-motor system; and the investigations of Dr. Carpenter and others have had a no less important effect, in throwing light on the functions of the different portions of the encephalon, in separating the psychical from the sensori-motor or consensual actions, and in assigning the seat of the former in the cerebral masses, and of the latter in the ganglionic structures I have spoken of.

There are no physiological phenomena which show more than do those of the nervous system, the importance of a wide basis of research, and the danger of hasty generalization. Had the observations of physiologists been confined to the higher forms of mammalia, to explain the phenomena witnessed in man; had they even been restricted to the vertebrata—our views of the functions of the nervous system would be much less precise and accurate than they now are. But an extensive observation of "the living experiments", to use the words of Cuvier, "which Nature has presented to us in an ascending series, in the various forms of animal existence," has demonstrated the functions of the various portions of the nervous system, and the progressive development of faculty, which attends the progressive development of structure. A careful investigation of these cases has enabled the physiologist to analyze the actions of the higher organisms, to dissect, as it were, the different portions of the nervous centres, and to apply to each its particular function. Observation seems to show that animal life is not dependent on nervous influence; that, as in the plant, nutrition, growth, and secretion, may go on without the intervention of nervous power, so, in some of the lower animals, these processes may be performed without its existence; and it has long ago been proved that, in the higher forms of animals, these acts will continue when the influence of the nervous centres is withdrawn. We cannot, therefore, look upon a nervous system as a necessary part of animal existence, but as something superadded, when definite actions are to be carried on. And we therefore find that, in those animals in which such movements are to be performed, in respondence to impressions, to sensations, or in obedience to the will, a nervous system exists, and part after part is added, or increased, in accordance with the endowments of the animal itself. An automatic apparatus is that which we first find; to it, in other animals, certain cephalic ganglia are added, which constitute, apparently, the centres of sensation, and of control over the movements of the body. But when the influence of the will is to be brought to bear on these movements, certain hemispherical masses are superadded, which are at once the organs of volition and the seat of the intellectual faculty; and a progressive increase in their development takes place, according as the animal possesses a greater power of volition, or is endowed with intelligence and reason of a higher order.

Of the connexion of this portion of the nervous system with the intelligent mind, it would be vain for us to speculate; it is sufficient for the physiologist to know the laws by which it is governed, and the machinery by which it acts. We shall probably never ascertain the process by which an idea is conceived, or by which a thought is elaborated; as we shall probably never know the steps by which an act of the will is produced; and we can scarcely expect that our researches will demonstrate the nature of that nervous force, which has occupied so much of the attention of philosophers in all ages. Nor need we be surprised at this. What do we know of the proximate causes of gravitation, of magnetic attraction and repulsion—of the essential nature of light, of heat, of electricity? We recognise these as *forces;* and we have ascertained something of their correlation to each other; and we must be content to look upon the nervous force as one of the demonstrations of vitality—a force undoubtedly related to those to which I have alluded, but differing in its essential nature from each and all.

Interesting as must ever be, to physiological psychologists, the investigation of these questions, we, as practitioners of medicine, may safely yield them to their consideration; but, whilst we leave these subtle speculations, it becomes us to pursue the path which is already opened in the domain of cerebral physiology, and, from a wide, extensive, and careful examination of structure, to develope a more accurate knowledge of function. We know nothing of function apart from structure; we know nothing of mind apart from its material agent. To use the words of one of our most eloquent associates (Dr. Cowan, *Physiology of the Brain—Transactions of the Provincial Medical and Surgical Association*, vol. vii): "To obtain a philosophical insight into the modes of acting of our different organs, it is indispensable not only to study functions, but also the instruments of those functions; and, what is of nearly equal importance, to trace both the one and the other through every grade of organization where their presence can be recognized, to discover their essential elementary character, and to view them apart from those various combinations which obscure their manifestations in the higher orders of created beings. . . . . We must not foolishly hope to penetrate the mystery of how mind is associated with matter. That there exists an intimate connexion between mental phenomena and organization, is perhaps most satisfactorily proved by referring to the daily and hourly experience of each individual. It might indeed with justice be asked, What do we know of mind apart from organization? Every manifestation of its presence is conveyed through material agencies; and we are not in possession of a single function by which we can perceive other than physical existences. The highest flights of creative genius fail to disrobe of a material covering the fairest beings it can fashion; and our conception of spirit is nothing more, when analysed, than indefinitely attenuated matter. The natural history of mind intimately links itself with corporeal conditions. It is as infantine as the body; it grows with its growth, and strengthens with its strength; it becomes enfeebled by age, and falters with its declining powers. There is not a vibration of the frame with which it does not sympathise, and from all antiquity bodily and mental health have been indissolubly associated. The horrors of the dyspeptic, the delicious reveries of the opium-eater, the frightful ravings of the maniac—what are they but the consequences of certain bodily conditions? And if terror may be assuaged by a narcotic, if fancy may be stimulated by the grape, if intellect may be arrested by a blow, can we for a moment hesitate as to the close union which exists between our mental acts and our bodily organization?"

The right path to the development of a scientific psychology is already entered on, and we may hope that the researches of the physiologist will pave the way for the formation of a true science of mind. Abandoning the vain speculations which characterized a former epoch, the spirit of the Baconian system has been infused into the inquiries of psychologists. To these results, the labours of some of those who are still amongst us—of Carpenter, of Noble, of Brodie, and of Dunn—have contributed; and, as a greater accumulation of facts takes place, let us hope that some subtle genius may arise, who shall unite together the scattered links of the chain of this vast inquiry, and establish the great doctrines of mind on a sound and immutable basis.

In considering the progress which neuro-physiology has made, it is impossible not to see that the present century, in this as in other departments of science, has indeed been prolific of results; nor can we contemplate the advances that have been made, or the principles and important generalizations which have been established, without experiencing feelings of satisfaction and of pride, at the distinguished part which our own countrymen have taken in the labours and researches which have led to results, so vast, and so valuable. The names of Bell, of Mayo, of Marshall Hall, of Todd, of Newport, of Carpenter, of Lockhart Clarke, are familiar to us all; and a host of other names, not less worthy of honourable mention, might be enumerated, did time permit. The works of these men have tended to place the British school of physiology in the high position it now holds; their researches have removed from the chaos of doubt and the region of uncertainty many of the most important facts of neurological science, and have given us clearer and more definite notions of the mechanism by

which the automatic and instinctive actions of animal life are performed, of the mode in which sensations are perceived, and in which voluntary impulses act.

But the labours of British physiologists have not been confined to, nor do the honours to which they are entitled rest alone upon, their observations of any one particular set of vital phenomena; and whether we look to the investigation of the elementary tissues of the body, of the structure, or the functions of individual organs; whether we look to the researches into the vascular system, or the nature of the fluid which it circulates; whether we look to the examination of the anatomical characteristics of the blood, or of those subtle processes which accompany its coagulation—in fine, whether we contemplate the physiologist as investigating the nature and properties of each atomic portion of the body, or taking in, in the vast comprehensiveness of his genius, the whole range of animated nature, classifying and arranging the facts which other labourers have assisted to accumulate, deducing from them the great principles which regulate the processes of organic life, and demonstrating the unity of design, and the adaptation of means to end, which characterise the works of our beneficent Creator,—we find in each the representative and the type in the British school of physiology; we find that each subject has had its special inquirers, each field its special labourers; and we have no fear for the onward progress of the science; no doubt that the honour reflected from our illustrious countrymen, whose discoveries have formed epochs in physiological history—from Harvey, Hunter, and Bell—will be worthily maintained by those who are now treading in the same paths, accumulating facts, and building up theories, in the same scientific departments. And I am sure I shall but express the feelings, and echo the sentiments of all, when I say with what satisfaction and pleasure we have regarded the recent effort that has been made, to do justice to the genius of one, whose name is indelibly associated, no less with the development and progress of surgery, than with the great generalizations of the science; one branch of which has formed the subject of these remarks. But, whilst we rejoice in the approaching realization of an object too long deferred, which has been earnestly desired by all the admirers of John Hunter, and by none more than by him who presides over this meeting, let us not forget that the claims of another of England's greatest physiologists, and greatest men, are yet unrecognised by any public memorial; that the remains of Harvey still lie in their obscure resting-place; and that no monument marks our admiration of his genius, or our appreciation of his labours.

But I feel, sir, that in paying the tribute of respect to the illustrious men, who have contributed so much to the advancement of physiology in our own country, I should be wanting in my duty, did I not tender our meed of praise to the distinguished labourers of continental schools, by whom the science has been so much enriched. Where so many have contributed to the progress and development of all the branches of the science, it would indeed be an invidious task to particularize names. In the course of this address, I have brought prominently before you the name and the works of one of the most distinguished of living physiologists, and I shall venture to mention another name, feeling sure that I may safely do so, in justice to the memory of him who bore it, and considering him as at once the representative and the type of the school to which he belonged.

Fifteen months ago, our science lost one of its brightest ornaments, and Germany one of her most distinguished sons. Those who have watched the progress of physiology during any portion of the last twenty or thirty years, are familiar with the name of Johann Müller; and probably many of those present are acquainted with the most important circumstances of his life, from the perusal of an eloquent oration, delivered in honour of his memory by one of his most renowned pupils.

An ardent worker, a profound thinker, entirely devoted to the objects of his pursuit, which he followed with unabated earnestness to the period of his death, his researches and his writings have exercised a powerful influence on the progress of physiology and physiological anatomy. His views are well known in this country, from the translation of his great work by Dr. Baly; a work which forms probably a more complete handbook of the science of which it treats, than any that has been written since the time of Haller.

Müller's was not the speculative genius, which astounds us by the brilliancy of its discoveries, or the boldness of its flights; but in him we see the careful investigator, the pains-taking observer; he built up no hypotheses, unsupported by proof, and destined to fall under the scrutiny of subsequent researches; but his was a gradual working out of results, from facts which his own indefatigable labours had accumulated, and his own mind had analysed.

No one could more highly appreciate the great discoveries of science than he, and no one knew better, how few are those which change its entire aspect; and there is a passage in one of his writings which, at the same time, is so honourable to him, and so creditable to two of the illustrious men whose names I have mentioned, that I cannot refrain from quoting it. Writing in 1833, he says:—"Great discoveries have hitherto been extraordinarily rare in the history of physiological science, and, if we reckon those which have brought about a total reform in our previous notions of physiology and pathology, we shall find that two only can be regarded as of primary importance, viz., the discovery of the circulation, and of the different functions of the anterior and posterior roots of the spinal nerves; which is the greatest honour of modern times."

Gentlemen, I feel that I have trespassed too long on your time. On the important general bearings of physiology on practical medicine, it is altogether unnecessary that I should dwell. One of the ground-works of medical science, one of the pillars which support the fabric which has been so nobly reared, we believe it will receive, year by year, fresh impulse and development; and more and more approach to that degree of perfection, to which we all desire it may attain; and we may rest assured, that in proportion as, upon the basis of structural knowledge, a correct appreciation of experimental inquiry, and a careful interpretation of pathological phenomena, we shall build up a sound physiology, and, on this, a rational pathology—so will the great principles of medical science advance—so will the diagnosis of disease become more easy, and its treatment more simple,—and so will the strongholds of empiricism be undermined, and the unsubstantial hypotheses of the day yield before the irresistible evidence of truth, and the power of demonstrated facts.

Let us, then, each pursue the path of legitimate inquiry, and endeavour to contribute our quota to the general stock of knowledge; bearing in mind the labours of those who have worked before us, and are working around us; and, although we may not hope to attain to their eminence, let us, at any rate, strive to imitate their example.

Illustrations
OF
HOSPITAL PRACTICE:
METROPOLITAN AND PROVINCIAL.

ST. GEORGE'S HOSPITAL.

I. EXCISION OF THE UPPER JAW.

Under the care of Cæsar Hawkins, Esq., and Prescott Hewett, Esq.

Richard L., aged 50, was admitted under Mr. Hawkins's care on October 27th, 1858. Two years and a half ago, he felt some obstruction in the right nostril, so that he could not breathe through it as he had been able to do; and one year and a half ago, a polypus formed there, which was removed, but shortly afterwards it formed again, and about ten months ago was removed. This, like the other operation, cured him for a time, but it was very short, as the passage became again obstructed, and for the last few months he had noticed a swelling in the right cheek at the lower border of the malar bone; this had been accompanied with a good deal of pain in the same side of the cheek. A week before admission, an abscess formed in the lacrymal sac, which was opened. There was, on admission, much swelling about the sac, which discharged pus.

On looking into the right nostril, a tumour could be seen, rather high up, exactly analogous to a polypus; and on the right cheek a tumour could be felt at the upper part of the superior maxillary bone, which to the touch was soft; and bone could not be felt beneath it, as if some had been absorbed. There was a muco-purulent discharge into the mouth by the side of the alveolar process of the bicuspid teeth.

Nov. 1st. The lacrymal sac was opened yesterday, and consequently there is a diminution in size of the tumour on the cheek. A probe being passed through the opening above the alveolar process, passed easily through the antrum to the

orbital plate. The probe was also passed through the front part of the nasal growth to the bone above.

Nov. 5th. The swelling of the cheek was less; the antrum comparatively free; the inferior spongy bone more distinct. The probe passed easily into the nose from the fistula. He was ordered to have a solution of sulphate of zinc injected.

Nov. 8th. A style was passed into the lacrymal fistula.

Nov. 12th. The thickening in the nostrils was undiminished. Solution of sulphate of zinc (gr. ij ad ℥i) was ordered.

Nov. 19th. Some small masses of a soft gelatinous appearance were removed from the lower spongy bone. Under the microscope these were found to consist merely of ordinary fibres and cells of mucous membrane; much hæmorrhage followed this. The tissue was soon reproduced, and in a short time the passage of air through the nostril was quite impeded, and the antrum appeared to be gradually filling with the growth. Mr. Hawkins, therefore, proposed to excise the upper jaw; but as the man would not consent, he left the Hospital on January 12th.

On April 6th, he was readmitted. He had suffered from giddiness and difficulty in breathing through the nostrils to such an extent, that he had made up his mind to the operation. The swelling had increased, although not to a very great extent. The operation was, however, postponed, in consequence of his having some cough, for which the opinion of the physician was requested, who pronounced his chest free from disease. Another cause of delay, however, was the formation in the cheek, over the diseased bone, of a small hard moveable lump, which felt very like a portion of the morbid growth. It was noticed, however, that some of the teeth were carious, and it was soon discovered that the hard lump was merely an abscess in connexion with these decayed teeth, so that, on the extraction of the teeth and the bursting of the abscess, the parts were soon in a condition for operation. This was accordingly performed, on May 19th, by Mr. Prescott Hewett in Mr. Hawkins's absence. In performing the operation, the bone was necessarily removed in three or four pieces, in consequence of several parts of it having been absorbed. In removing the portion of the tumour by the pterygoid fossa, the internal maxillary artery was divided. This was tied directly, and there was no hæmorrhage of consequence from any other source. The tumour, which almost filled up the antrum, much resembled a collection of small polypi, consisting of a number of villous processes, arranged several on a single stalk. There was no microscopic evidence of malignant disease. Chloroform was given previously to the operation, but he did not remain under its effects more than a third of the time.

In the afternoon, there was a little secondary hæmorrhage, which was soon arrested by ice. The wound in the cheek united readily, for the most part by first intention; but on the 24th, the cornea on the side operated on became inflamed, and this inflammation progressed steadily to the destruction of the organ, the cornea having sloughed and the contents of the eye escaped. The movements of the lower jaw also were very limited on his recovery, in consequence of some low inflammation in its neighbourhood, by which the motions of the joint were confined to a space of from one quarter to half an inch. This, however, was somewhat improving when he left. About a month before his discharge, Mr. Prescott Hewett extracted from the nostril a small polypus exactly resembling the original tumour. There seemed to be no return of it before his discharge. He left the house in very good health towards the latter end of August.

II. DISEASE OF THE SUPRARENAL BODIES.

Under the care of W. E. Page, M.D.

William S., aged 17, was admitted, under Dr. Page's care, on July 9th, 1859. He was a tall lad, who had the appearance of having outgrown his strength. For the last four months he was noticed to have been weakly and ill, and to have been losing flesh; but he would not admit having had anything the matter with him, and he went on with his work (at a saddler's) until ten days before admission, when vomiting came on, accompanied by some degree of mental wandering. When he came into the Hospital, he was extremely thin, and he had a general slight taint of jaundice upon the skin; but the conjunctivæ were perfectly white. There was frequent vomiting. The belly was depressed, and no enlargement could be felt in the hepatic region. The lungs were carefully examined, but nothing unnatural could be detected. When he was questioned, he displayed a hesitating, uncertain manner. He complained of pain across the loins, and of a burning pain at the lower part of the sternum. The skin was cool, or rather cold; the pulse 96, very feeble; the tongue clean. He was ordered an ammoniated saline draught, and six ounces of wine. The bowels being confined, a mild purge of grey powder and rhubarb was given; but, as this did not act, on July 11th blue pill and colocynth were administered, and produced a motion, apparently quite natural. Prussic acid with soda was also given, to check the vomiting, which still continued. Brandy was substituted for the wine. The urine was obtained, and found to be natural. By July 13th, the vomiting had subsided; the yellow tint of the skin remained. He was more emaciated and hollow-eyed. The skin was cold; the pulse 100, and very weak. He complained of feeling "awfully low". At times he was a little delirious; so that, a blister having been put on the sternum, to relieve the pain there, he fancied his whole body covered with blisters. Both pupils were dilated, and had been so, more or less, from the first. The same treatment was continued, alcoholic and ammoniacal stimulants being given freely. Next day, he was found usually lying with half-shut eyes, regardless of all that was going on, but now and then rousing himself to answer a question. He was quite cold, and had no pulse. In the afternoon he died.

The *post mortem* examination was made twenty-three hours after death. The body was emaciated. The skin was universally somewhat discoloured, of a dirty yellowish hue, approaching to bronze only on the parts exposed to the sun. On microscopical examination of the skin, the whole of the epidermis was found loaded with pigment, which in many places was collected in greater quantity in the deeper layers of the epithelium, in others was equally distributed throughout it. The brain was healthy, as was the heart. The right side of the heart contained white clot. The left lung was healthy. At the apex of the right lung was a single very small collection of crude tubercles. The liver, spleen, and kidneys, were healthy. The gall-bladder contained a large quantity of bile. The suprarenal bodies, particularly the left, were of large size, and were occupied by a mass of tubercular deposit to such an extent that no portion of the healthy gland appeared to be left. The mesenteric glands were enlarged by tubercular deposit. Both the solitary and agminate glands in the lower part of the ileum were much enlarged. No ulceration or inflammation existed.

Remarks. The above was an unquestionable case of fatal cachexia from disease of the suprarenal bodies, and, in that sense, an instance of "Addison's disease", although the peculiar condition of the skin, which first attracted the notice of Dr. Addison in this disease, could not be clearly recognised. In fact, it appears not improbable that the bronzed condition of the skin, by which the disease was originally characterised, is only one of the symptoms of a malady of which perhaps too few cases have hitherto been observed to allow of any definite conclusion as to its pathognomonic character. In the case of the poor lad before us, the colour of the skin was not sufficiently well marked during life to assist in any manner in the diagnosis, although the existence of disease of the suprarenal capsules was suspected, on the authority of analogous cases which have occurred at this Hospital, and which we have had the opportunity of reporting. The progress of the symptoms sufficiently proves that the fatal result was in no way connected with the disease found in the mesenteric glands and intestines, and which, indeed, was in so early a condition as probably to be hardly announced by any symptoms.

KING'S COLLEGE HOSPITAL.

CYST CONNECTED WITH THE THYROID BODY.

Under the care of W. Fergusson, Esq.

Mary Allen, aged 34, a native of Hertfordshire, was admitted, under the care of Mr. Fergusson, on May 16th. She had been living for the last five years at Blackheath. It appeared that she had noticed a swelling over the thyroid cartilage about fifteen years ago, which had continued to increase ever since. It was about the size of an orange, moved during deglutition, and gave little inconvenience except by its bulk. She complained, however, of slight pain and dyspnœa after exertion. Her aunt was similarly affected.

On May 21st, she was put under the influence of chloroform. The tumour was carefully cut down upon, and an opening about an inch in length made into it in the middle line. A large quantity of dark-coloured fœtid fluid escaped, which Mr. Fergusson pronounced to be serum coloured with blood, and called the attention of his class to the peculiar odour found in

the fluid of cysts connected with the thyroid body. Immediately after the escape of the fluid, the cyst filled with blood of an arterial colour. This hæmorrhage appeared to proceed from the vessels of the cyst, the pressure upon which had been withdrawn by the removal of the fluid, and not from any vessel having been divided. On placing the finger in the cyst, the innominate artery could plainly be felt, and was so isolated that a ligature could easily have been carried round it. The wound was stuffed with lint, and a pad strapped on it, which controlled the hæmorrhage. A poultice was substituted for the pad on the 23rd, but on the following day it was found necessary to renew the pressure, in consequence of bleeding following the removal of some of the lint.

On the 28th, however, it was found feasible to remove the lint, as bleeding no longer occurred. The cyst became filled with granulations, which were so abundant as to require repressing with the nitrate of silver; and on June 11th, she was well enough to be made an out-patient.

On the 26th, however, she was readmitted, in consequence of bleeding, which had occurred from the wound during her sleep. She had lost, it was said, half a pint of blood before being brought to the hospital. Pressure was now again made upon the wound, by stuffing it with lint and covering it with a compress as before, and no further bleeding has occurred. The cyst was daily emptied of its serous contents, and pressure reapplied, until she was again well enough to be discharged, when she occasionally attended as an out-patient. She was last seen on August 4th, when the wound had contracted to a minute sinus, and recovery seemed almost complete.

Remarks. The above was an instance of a not very common form of bronchocele, viz., a sanguineous cyst in connexion with the thyroid body existing singly, and giving rise to some trouble in consequence of the vascularity of its lining membrane. The case also illustrates the important relations which such cysts in the neck assume in consequence of the facility with which they make their way among the great vessels. The peculiar odour of the fluid contained in these cysts of the thyroid body is a point worth bearing in mind.

KENT AND CANTERBURY HOSPITAL.

CASE OF CHOREA TERMINATING FATALLY: GENERAL REMARKS.

By Alfred Lochée, M.D., F.R.C.P., Senior Physician to the Hospital.

[*Communicated to the East Kent and Canterbury Medical Society.*]

I propose to call the attention of the Society to a few practical points connected with the malady known familiarly as the dance of St. Vitus, with the special object of relating the details of a fatal case of that disorder.

Such an event as death actually from simple chorea—*i. e.*, a fair wearing out of the powers of life under the exhaustion consequent upon the continued convulsive movements which characterise the disorder—is, I apprehend, a very rare one in the present day, whatever may have been the case in former times, and under those peculiar circumstances which generated those remarkable nervous derangements marked by *increased efficiency* but *depraved direction* of the will, known as tarantism, leaping ague, etc. Such an issue to such a malady is, in fact, the only instance of the kind of which I have any personal knowledge; and I have, therefore, thought it worthy of being brought to your notice.

Ordinary cases of chorea Sancti Viti are of frequent occurrence in this locality, and the wards of our Hospital are seldom for many weeks together without one or more of them. They occur almost exclusively in young females between the ages of 8 and 20; they are usually attributed to, and probably are actually produced by, some sudden shock of the nervous sensibilities, as fright, etc.; whilst they are universally found to be connected with deranged uterine functions, with some kind of intestinal irritation, or with a morbidly excitable imagination. Those cases which come on after an attack of acute rheumatism I do not include in the present category.

These common cases are very amenable to treatment; the great majority of them being readily cured by any of the preparations of iron or zinc, preceded and accompanied by mild though active aperients, which last I hold to be a very essential part of the treatment. Probably, indeed, these ordinary cases of chorea, and especially those which occur in susceptible young children, from mental emotions, have a natural limit of their own, and would get well of themselves in a reasonable time, under the influence of the change of association and the repose which are found in a place like this hospital; for I hold it to be a principle, that anything which makes a decided alterative impression upon the system, without impairing the strength, exerts a curative action in chorea.

On the other hand, some few of the cases we receive here are very rebellious to treatment; and that, too, without any apparent reason or appreciable cause for the difference. In these, the disorder seems to become habitual from the mere lapse of time; such patients always presenting more or less of the appearances of imbecility. As a rule, the muscular disorder is general in them; whilst a direct cause for the attack can seldom be assigned. In all of them, however, it will be found that the menstrual function has not been established, even when the age is sufficiently advanced for it to be so; whilst they present a flushed florid face, capillary congestion of the skin, with a weak pulse or feeble heart—all indicative of want of tone in the circulating and muscular systems. These cases, also, in my experience, for the most part do well, under combination of purgatives, tonics, and antispasmodics, long ago recommended by Sydenham for their treatment; or else they gradually recover, as it were, spontaneously, as the catamenial age comes on, and the menstrual discharge appears.

Such is the ordinary run of our chorea patients; but now and then, as rare exceptions, I believe, to the rule, we do meet with cases which are accompanied by a far graver train of symptoms—declaratory, in fact, of a large amount of irritation of the cerebro-spinal axis, and attended with that peculiar state of brain-excitement and nervous exhaustion which is so remarkable in the malady known as delirium tremens. I will give you a sketch of two such cases, which turned out well, as introductory to a third, which ended fatally.

Case i. A young girl, aged 15, was brought to the Hospital on April 6th, 1858, from Ramsgate. The convulsive movements were general, and rather severe; she was said to have had no sleep for a week; she was pale and exhausted from her journey. The pulse was very low; the bowels were confined; the catamenia had not appeared. The attack had come on nine days before, without any known or apparent cause. She was ordered turpentine enema, and a combination of saline aperients with iron. As she was sleepless, and even at first disposed at times to talk wildly, she had an opiate at night. Things went on as usual with such cases, except that she very early showed signs of prostration, until the 24th, when she became wildly maniacal, and so violent as to render it necessary to secure her in bed, by means of a sheet folded across the body. This frenzical condition gradually merged in four days, under the influence of opium and blisters, into a state exactly resembling the middle stage of typhus; low faltering pulse; dull sensorium; sordes on mouth and teeth; muttering delirium when left to herself, and a tympanitic belly, the chorea also continuing. Ammonia, camphor, opium, wine, and counterirritants to the head and spine remedied this condition in about a fortnight; so that, by May 10th, oxide of zinc was given for the chorea, which was still nearly as bad as at first. Citrate of iron was given on the 31st; and she left as convalescent on June 23rd; which, albeit being the eve of St. John's day, is not supposed to have had any influence in her recovery.

Case ii occurred in a young woman, aged 18, a servant of "*all work*", which means always of very hard work. In her the chorea came on after she had been in the Hospital some weeks, she having been admitted in August with the customary train of nervo-hysterical symptoms, of which hyperæsthesia was the most prominent. The chorea came on gradually. We watched its advent, and prescribed accordingly; nevertheless, on October 3rd, it broke out into a violent frenzy, which necessitated removal into a separate ward, and the application of all sorts of contrivances to prevent her from injuring herself during her gesticulations, by striking her head and limbs against the wall and bedstead. As it was, she got several severe bruises. She ran on into the same state of typhoid prostration and low delirium as in the former case. The treatment was the same, and by October 26th, she was restored to simple chorea again. She took a combination of iron and zinc for a fortnight, and was made an out-patient at her own request November 30th, since which time I have heard nothing of her.

Case iii did not furnish the same pleasing result, and has induced me to lay this history before you. It occurred also in the person of a young girl, aged 14, who was admitted October 19th from one of our city parishes. At first sight, and for a day or two, it looked like an ordinary case of chorea; for, on

her first examination, nothing unusual was noted about her, except that she was "rather dull and heavy". The disorder was general, but not very violent. She had had it for three months; it was her second attack, the former one having taken place two years prior. She had never menstruated; the pulse was low; the bowels had been confined for some days; they were always torpid; the jactitations were said to continue during sleep, which was subsequently proved to be the fact.

In accordance with my usual plan of treatment, she was duly purged with our compound magnesia draught, had a turpentine enema, and then some form of iron.

On the 25th, she became much more violent in her muscular contortions, and talked wildly, though perfectly sensible to questions and making rational answers. This state, with the addition of pervigilance, continued with little variation for nearly a fortnight, during which time came gradually on those typhus-like appearances noted in the other cases; the prostration being, however, far greater in this one. So incessant were the involuntary muscular movements, that at the bend of the elbows the cuticle got chafed and abraded, and from this extended a bright superficial erysipelatous redness as high as the armpits. Nothing controlled for a moment the violence of the symptoms; night and day she writhed and jerked and twisted about. By November 5th, it was quite evident that she would sink from exhaustion, for up to that time she took stimulants and nourishment more easily than I was at all prepared for or can readily explain, since the muscles of the throat were affected with the rest. The low state of her vitality was further evidenced now by the appearance of a large slough on the sacrum, and a gangrenous hue on the abrasions at the elbows; and so her powers of endurance gradually wore out, and she died on the 12th. There was no stupor, nor other sign of cerebral effusion, until a few hours before her death.

Remarks. It is apparent to me from the issue of this case, that both of the other ones I have related were much nearer to a similar ending than I at all supposed; and I am still at a loss to see how they escaped from it. As a matter of fact, until within a week or two of the end, this fatal case did not wear so threatening an aspect in some particulars as either of the other two, especially the first I alluded to.

The pathology of this case, and of all similar ones, is a point of great interest; for what are the structural changes, if any, or the morbid appearances, discoverable in the cerebro-spinal axis from such a disorder? I cannot say what they were in the case before us, as a *post mortem* examination was peremptorily refused. I do not imagine, however, that we should have found anything more than serous effusion into the arachnoid, and possibly into the ventricles of the brain; and even that most probably merely as the result of disordered vascular action a few hours prior to death. We shall have no right, I think, to assign to any particular portion of the nervous centres any particular lesion or structural change as the exciting cause of the symptoms; whilst seeing what the symptoms were from first to last, we shall have still less right to expect to find any of the products of pure inflammatory action. The important practical fact which I deduce from the case is, that simple brain-irritation, prolonged, it may be, to the spinal marrow, apart from any inflammatory action either in themselves or their meninges, may induce some of the same physical results, and that exhaustion consequent upon long-continued nervous excitement and spasmodic muscular actions may kill a patient with St. Vitus' dance, just as it does in hydrophobia, or some of the forms of tetanus.

Original Communications.

ANOMALOUS CASE OF TYPHOID FEVER.

By T. Ogier Ward, M.D., Winkfield, near Windsor.

On August 7th, I was requested to see a delicate female child, about 2 years old, one of a family of six children, four of which, boys, had died from teething at about the same age. I was told she had had a bad cold for a week, attended with cough and violent running from the eyes and nose, and slight sore-throat. She had lost her appetite, was feverish, and disinclined to quit the arms of her mother or the nurse. She slept badly, with slight occasional delirium; but this was only evinced by her striking her mother on one or two occasions when disturbed at night. Her bowels were rather confined. I found her shy and fretful, with a quick pulse, a little more heat of skin than in health, only eight teeth fully cut, but no redness or tenderness of the gums nor flushed cheeks. The tongue was rather white at the back, moist and clean at the tip. She had slight thirst. The abdomen was not distended, nor very hot. Profuse discharge of puro-mucus flowed from both nostrils, which, as she tried to breathe through them, her throat being obstructed by enlarged tonsils, caused her to respire with difficulty, but not rapidly. This difficulty was much increased during sleep.

Thinking I had to treat a mere feverish cold, I prescribed a mercurial aperient and a saline pectoral mixture, which was continued for five days. The cough and fever had at the end of this time subsided, though the discharge from the nose was rather worse, and there was a complete disgust to food of every kind. I ordered iron wine, with infusion of orange peel, which, after three days, was discontinued, as her mother thought it did her no good, and confined her bowels. I then, finding that she still took no food, urged the use of wine, which she took in very small quantities, and with great reluctance after the first day; and, thinking it was possible that the discharge from the nose (which had now become decidedly purulent and very offensive, and had caused small pustules outside the nostrils) might be a cause of the anorexia, I had the nostrils injected with a solution of the nitrate of zinc, which in two days completely stopped the discharge and dried up the pustules, but without any improvement to the appetite. This was on August 19th, and I advised the resumption of the iron wine. On the 20th, I found the hands and feet swollen and cold, and the child restless, rubbing its head with its hands; the abdomen, however, being quite contracted. I then inquired whether it had passed urine, and learnt that for some days it had only passed it once in twelve hours. I therefore ordered it a stimulant saline diuretic, of which it took a portion, but without any effect, and died, rather suddenly, at 5, A.M., on the 20th.

As the symptoms described above, viz., the fever, attended with discharge from the nose and sorethroat—the former persisting after the cessation of the fever and being followed by retention or diminution of urine—with swelling of the hands and feet, seemed to resemble the course of scarlatina, I inquired whether any eruption had been observed at first; but this being denied, I thought it might still be a case of scarlatina without eruption; but a *post mortem* examination cleared up the mystery by shewing that it was a case of typhoid fever. No other organs than the Peyerian glands of the ileum, and the mesentery, were affected; the former being ulcerated, and the latter greatly enlarged.

As to the origin of the complaint, as the child never went off the premises previously to her illness, and there are no houses within forty yards, the only causes I can suspect are that the child would often stand with her nurse near the sink in the scullery, which is often offensive, and that there is a muddy pond on the same side of the road, about sixty yards distant. The occurrence of a purulent discharge from the nostrils is certainly to me a novel feature of typhoid fever; and, together with the absence of fever after the first fortnight, rendered the case so obscure, that I think it may be fairly placed among the instances of latent typhoid fever.

CASE OF POISONING BY POTATOE-BERRIES.

By Thomas Morris, Esq., Merford, Gresford.

On Tuesday, the 7th of August, about six, P.M., I was summoned to attend Miss M. E. H., aged 14, the messenger stating she had eaten the berries of the potatoe plant, portions of which she showed me.

On arriving at the bedside of my patient, I found her labouring under the effects of a narcotico-acrid poison. She was tossing to and fro in bed; the skin was bedewed with a cold clammy perspiration, and of a rather livid colour; respiration was hurried; the pulse was exceedingly quick and feeble; the teeth for the most part were closed, and she was constantly spitting, through the closed teeth, a viscid frothy phlegm. She was speechless. She would, after repeated asking, put out her tongue, which was covered with a brown, moist fur. She occasionally asked for drink, and begged her mother not to leave her. The eyes for the most part were open, and the pupils were not very much dilated. The expression was anxious. She occasionally slumbered for a few minutes, and again was restless.

From the history of the case, it appeared she had been slightly indisposed the week before; but was better on the

Sunday, and in the afternoon went into the garden and partook of the berries. In the evening she complained of pain in the bowels, and the nurse took her a glass of gin and water and rhubarb pills. On Monday there was a good deal of sickness; but none of the crude vegetable appeared in the ejected matter. On Tuesday the sickness continued, and the matter ejected was of a greenish cast (it may have been bile, or assimilated vegetable matter). An emetic of ipecacuanha was now given by her parent, and the crude vegetable ejected which was shown to me by the messenger when I was hastily sent for.

Considering the length of time that had elapsed since the poison had been taken, together with the fact that a considerable quantity of the vegetable matter had been ejected, I felt it my duty to attend to the depressed vital powers; and, with this object in view, I directed her to take strong coffee, and brandy, and arrowroot, and prepared a mixture consisting of carbonate of ammonia and aromatic spirit of ammonia, in mint water, a dessertspoonful to be taken every half hour, in arrowroot. Brandy and arrowroot were given in the intervals, and I administered a turpentine enema occasionally, which would soon come away, bringing some feculent matter, mixed with portions of the seed.

I remained in attendance all night, and thought the pulse in the morning more firm; but as there still remained much doubt about the case, a desire was shown to have Dr. Williams, of Wrexham, called in, which was at once agreed to. I left about half-past six, A.M., for two hours, and returned in time to meet Dr. Williams (in whose absence Mr. Eyton Jones attended).

There were now more decided symptoms of sinking; the pulse was scarcely perceptible at the wrist, and it was deemed necessary to make an impression on the system. With this view, a mustard plaster was applied over the abdomen, which acted. A dose of turpentine in gruel was administered, and the enema was increased in strength; but she gradually sank, and expired about twelve at noon on Wednesday. There was no *post mortem* examination.

Remarks. The hurried respiration and bluish cast of the skin, arose, probably, from the air-cells at the base of the lungs being impervious, through an accumulation of viscid secretion. Would small bleedings, by diminishing the volume of blood and enabling the heart to act more perfectly, have been of any utility, considering the depressed state of the circulation and nervous energy? Would such practice be safe? We often find small bleeding, when the system is recovering from a state of collapse, to be of great advantage.

ILLUSTRATIONS OF THE USE OF THE OPHTHALMOSCOPE.

By William Martin, F.R.C.S., late Professor of Ophthalmic Surgery in the Calcutta Medical College.

[*Concluded from p.* 697.]

Parasitic Bodies in the Eye.

By means of the ophthalmoscope, we are able occasionally to detect parasites, animal and vegetable; and these are by no means confined to the anterior parts of the globe. An interesting case is described and figured in Desmarres (vol. iii, pp. 757-8) of cysticercus in the retina. There were signs of turbid vitreous humour—floating false membranes; the greater portion of the fundus, including the papilla, entirely hid; but, by making the patient look a little below and to the inside, there was discovered a cysticercus thus described. The neck is of a bluish white, evidently agitated at the slightest movement. Once M. Desmarres saw it become shorter, and the head hide itself almost entirely in the body of the tumour. The body is of a brilliant yellow-white colour, seven or eight times the size of the optic papilla.

Injuries of the Eye from Foreign Bodies.

Mr. White Cooper, in his recently published and beautifully illustrated work on *Wounds and Injuries of the Eye*, remarks, at page 41, that the ophthalmoscope, in doubtful cases, may render us valuable assistance. If a chip of metal, for instance, has lodged in the vitreous humour, without traversing or wounding the lens or its capsule, it will readily be discovered by the ophthalmoscope, unless buried in such a position as not to admit of its being brought into view. If the lens has been wounded, it will become opaque, and of course prevents the use of this apparatus. And he gives extracts from the works of Jaeger, illustrative of this subject; also, at page 233, he gives instances of the value of this means of observation, in a case in which, after a wound from a cricket-ball on the globe, sight became extinct; and, on close examination, there were found a number of brownish flakes floating on the vitreous humour; and effusion, varying in parts from pink to a chocolate hue, pervaded the retina, covering the entrance of the optic nerve. A distinct dark clot of blood was discernible near the lower and outer portion of the retina. In another case, by means of this mode of examination, he was enabled to speak of the nature of an injury with confidence and precision, where, without it, he could only have hazarded an opinion of what was probable. The eye of a farmer having been struck by a missile, sight was lost. Externally, nothing abnormal, but a dilated and motionless pupil, was seen. The ophthalmoscope showed the seat of a rent in the retina, as an opaque irregular line, nearly in the axis of vision; and there were many small spots around this, evidently the remains of the coagulum of blood (detected previously by Mr. Dixon) which had not been entirely absorbed. "In our report, we were enabled to state with confidence that, though Mr. J. might retain a certain amount of sight in the injured organ, we were of opinion that it would never be restored to its former perfection."

Among many interesting examples Mr. W. Cooper's book contains of the value of this instrument in the elucidation of injuries of the eyes and their effects, are the following:—At page 140 is related a case, in the practice of Gräfe, of a student in whom, after recovery from injury, the ophthalmoscope showed detachment of the retina in the lower half. The upper half was normal, and the lens and vitreous humour remained transparent. The patient only lost the sight in the upper half of the visual field. At page 163, he gives an instance in his own practice, in which he was enabled to detect by this means the changes which had taken place in the posterior part of the eye, from an injury, causing retinal effusions, etc. He also relates a case at page 176, where he was enabled to trace double vision, after a blow, to an opaque line on the posterior surface of the capsule; the media otherwise transparent. At page 178, he gives an instance of a man rendered almost totally amaurotic in consequence of a blow near the eyebrow. In former days, this would have been attributed simply to injury of the frontal nerve and its branches; but Mr. Cooper was enabled to detect partial detachment of the retina, bloody coagula, and other changes much more likely than any injury of the external nerves to cause the amaurosis; in fact, such organic alterations as must be to a great extent incompatible with the due performance of the functions of the retina. At page 180, he gives a case of Mr. Bowman's, in which there were detected, after concussion of the brain, abnormal appearances of the retina and choroid, with numerous black spots both before and behind the retina; another case, under Dr. Williams, in which he found the "retina elevated by a turbid liquid, such as is often observed in pericarditis and other serous inflammations". At page 181, he gives a case, under the care of Dr. Van Dommellen, in which, after concussion of the brain, the ophthalmoscope showed the papilla replaced by a reddish disc; veins alternately raised and depressed; arteries very small and pale. At page 235, in a case in which, after a blow, the patient saw a dark cloud before his sight, Mr. Cooper detected a greenish grey mass at the posterior part of the vitreous humour, obscuring the retina. As the eye moved, this was jerked up, and then settled slowly down—evidently a coagulum of blood, intercepting the rays of light.

In concluding these notes, we may remark, that formerly it was one of the most rare things to have an opportunity of verifying by subsequent or *post mortem* examination any morbid changes which had been supposed to have taken place in the eye, with the exception of cases of malignant tumours for which the globe had been extirpated. Now that it is the practice of ophthalmic surgeons to remove diseased globes more often than formerly, instead of leaving them in the orbit, to create irritation and endanger the existence of the sound eye; and that more pains are taken to form collections of the diseased globes which are removed,—the facilities of comparing diseased appearances with the revelations of the ophthalmoscope have become vastly increased, and thus a wide field is opened for improvement of our knowledge of this branch of science, and particularly in the minute anatomy and pathology of the regions; and, as a result, for more decisive and more certain methods of practice.

24, George Street, Hanover Square, August 1859.

Transactions of Branches.

LANCASHIRE AND CHESHIRE BRANCH.

THE TREATMENT OF SINUS BY THE INJECTION OF IODINE, PARTICULARLY FISTULA IN ANO.

By Thomas Skinner, M.D., Liverpool.

[*Read in Abstract, June 8th, 1859.*]

I am well aware that the treatment of sinus by the injection of iodine is no new discovery; yet I fear that, from want of supporters, or from some equally efficient cause, the practice has not obtained that universality of adoption it so well deserves.

History. In 1830, M. Lugol, physician of the Hôpital Saint-Louis, was the first, I believe, who introduced the practice of injections of iodine for the cure of various affections, as scrofulous abscess, sinuses connected with disease of the hip and other joints, and caries of the bones. (*Mémoire sur l'Emploi de l'Iode*, 1830-1831.) Dr. Clay of Manchester, our well known pioneer in ovariotomy, was also the pioneer of the treatment of fistula *in ano* by injections of iodine. In 1843, he published a very interesting case successfully treated by such means. I am not aware that he has published any more of his experience. (*Medical Gazette*, September, 1843.) Ten years later, M. Boinet, in the *Gazette Médicale de Paris*, December, 1853, as also in his extensive treatise on *Iodo-Therapeutics*, has spoken in its praise in almost unmeasured terms. He says, "It is less inconvenient and less dangerous; it does not necessitate a long confinement to bed and daily dressings; it is comparatively free from pain, and it is easy to carry into effect. It is applicable in all cases, whatever the form of the sinus or sinuses; and particularly in those cases in which the knife cannot be used without difficulty or danger. It does not prejudice the position of the patient even where it does him no good. For these reasons, M. Boinet concludes that it ought always to be tried before having recourse to the knife." (*Ranking's Abstract*, vol. xix, p. 168.)

Cases. During the month of Nov. 1856, I was initiated into the practice by my esteemed master, Professor Simpson. The first case I injected was one of fistula *in ano*, and it is referred to by Dr. Simpson in the *Medical Times and Gazette* of 16th April last. The patient came from the north of Ireland, and had suffered for many years from the disease. By Dr. Simpson's direction, I attempted to inject the fistula; but from the extreme smallness of the orifice, I failed to do it justice. On informing him of this, he suggested the nozzle to the syringe represented in the accompanying woodcut, which I will describe immediately. The patient being again prepared by an aperient and an enema, I injected the fistula, and this time I caused the injection to appear at the internal or rectal orifice. The strength I then used was two drachms to an ounce of spirit (No. 3, as opposite), and the quantity I injected was under thirty minims. There was scarcely any pain complained of, and in three days the fistula was entirely and permanently cured. Within a week of the operation, it withstood the powerful test of the hydraulic pressure of one pint of tepid water injected into the rectum, not one drop of which passed through, or in the slightest degree distended the cicatrised cutaneous orifice of the fistula. This case was seen again three months afterwards, and there was no sign of the disease beyond the sunk cutaneous cicatrix; and some months after that, Dr. Simpson received information that the patient was in the enjoyment of the best health and spirits, the old enemy being perfectly quiescent. I have taken the liberty of detailing this case of Professor Simpson's, as it was my first attempt at the practice; and I do so with less hesitation, as he has already associated my name with it. I have permanently cured other three cases in the female, one of which is fully detailed at page 499 of the Journal for this year, and which is especially interesting, as showing, that fistula *in ano* may be an efficient cause of sterility. It also shows, that a formidable fistula with three cutaneous sinuses and apertures communicating by fistula with an ulcer in the rectum, may be cured with little or no inconvenience and without any danger, in the short space of three days. The means adopted were a simple longitudinal incision through the mucous membrane including the ulcer, and a single injection with tincture of iodine through the fistula. The details of the other cases would only occupy unnecessary space; so I will content myself with offering a few practical observations.

Practical Remarks. Dr. Clay took three weeks to effect a cure in his case; I suspect this was owing to the weakness of the tincture he used, and the plan he adopted. He injected the fistula every day for the first three days, and then every other day for the next twelve; in all, nine injections or dressings. Now, I cannot but think that this does harm, as it tears up the adhesions of the previous day, and leaves little chance of consolidation. Dr. Clay says: "The tincture could not be detected in the rectum after the second injection." (*Medical Gazette*, September 1843.) I am inclined to believe that, if the injections had then been discontinued, the treatment would not have extended to three weeks. We must remember that the force of an hydraulic instrument, like a syringe, is very great: the stream is a most insinuating and powerful wedge, particularly when the bore of the nozzle is very fine.

M. Boinet and Dr. Clay inject one or two teaspoonfuls of their tinctures. I have never used more than thirty minims of any of my own, and I have often succeeded with less. M. Boinet uses a "knobbed cannula", which is objectionable, unless the orifice is dilated. He recommends a finger to be placed on the internal opening in the rectum, and the injection to be retained for five or six minutes. But, in my opinion, the finger on the internal orifice will not prevent the injection from passing into the rectum; and, if the injection is strong enough, retention of it is unnecessary.

Preparations and their Strengths. In regard to the strength of the solution for injection, it varies with each observer. M. Lugol's solutions are as follow:—

	No. 1.	No. 2.	No. 3.
Iodine	gr. ii	gr. iii	gr. iv
Iodide of potassium	gr. v	gr. vi	gr. viii
Distilled water	lb. i	lb. i	lb. i

These were intended for injecting the fistulous tracks leading to carious joints; and, although these strengths are said to be attended with danger, "causing occasionally intense inflammation and sloughing of the soft parts" (*Manual of Therapeutics*, Waring, sect. 1465); yet, I am certain they will be found almost inert in fistula *in ano*. I rather incline to think, that the damage done to the soft parts by such injections is owing to the injury first done to the diseased joint. M. Lugol used No. 2 in fistulæ connected with *morbus coxarius*.

Dr. Clay used the ordinary officinal tincture of the Pharmacopœia, full strength, which is very good for some cases, but it rarely succeeds by one injection, so far as fistula *in ano* is concerned.

M. Boinet's injection solutions are of two strengths:—

	No. 1.	No. 2.
Iodine	℥ss	ʒi
Iodide of potassium	gr. xv	gr. xv
Distilled water	℥ii	ʒx

I object to the iodide of potassium and water. I believe that the less there is of water, and the purer the iodine, the greater certainty there is of success. I use three strengths, as follow:

	No. 1.	No. 2.	No. 3.
Iodine . . .	℥ss	ʒi	ʒii
Sulphuric ether	q. s.	q. s.	q. s.
Spirit of wine	℥i	℥i	℥i

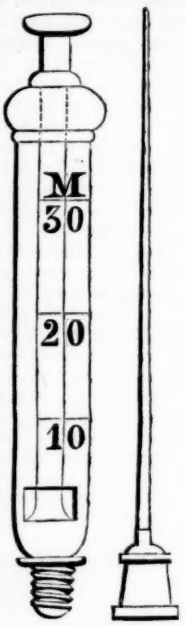
The sulphuric ether is added simply as a quick solvent instead of iodide of potassium. I find that a tincture composed purely of sulphuric ether and iodine is best, but it will not keep at the same strength for one day. I have, in consequence, lately been in the habit of extemporising such tinctures at the moment, for various purposes to which I apply them. They are as follow:—

	No. 1.	No. 2.	No. 3.
Iodine . . .	gr. iiiss	gr. viiss	gr. xv
Sulphuric ether	ʒi	ʒi	ʒi

In preparing these tinctures, the following facts must be borne in mind. The iodine should be dry and resublimed. The ether should not be of less specific gravity than ·750; of density ·725 it is useless, as it cannot be drawn into, far less retained in the syringe. It should be prepared in a test-tube with a well fitting cork. By using such tinctures, the ether evaporates at once, and leaves a perfect coating of pure iodine on the walls of the fistula or sinus.

Description of Syringe. My own method is little different

from the plan first suggested to me by Professor Simpson. I will first describe the syringe; the accompanying woodcut will assist. The cylinder and piston are such as belong to Dr. Alexander Wood's syringe for hypodermic injection; the nozzle is the important part. It is composed of a very fine gold tube, so as to resist the corrosive action of the iodine; the tube is about one-sixteenth of an inch in external diameter, so as to pass into the finest fistula the same as a delicate probe. The tubular portion ought to be, at least, two and a half inches long, fixed into a silver socket with *hard* solder, as iodine destroys soft solder. The silver socket has a female screw in it adjusted to the male screw of Dr. Wood's syringe. Any one possessing Dr. Wood's syringe may have the extra nozzle supplied by Mr. Young, cutler, Princes Street, Edinburgh. After using it for this purpose, it should always be cleaned by pumping dilute liquor potassæ through it; and before using the piston for narcotic injection, fresh cotton should always be applied.



Operation. Prepare the patient with an aperient and enema. If it is a *complete* internal fistula, which may be easily diagnosed by dilating the rectum with Weiss's female dilator, or with the bivalve anal speculum of Mr. Ferguson, of Giltspur Street, and injecting from the external opening a little sweet milk. (There is no probe for this purpose like a hydraulic one.) If the fistula is *complete*, place the fenestrum of the speculum over the rectal orifice. Clear out the sinuses by injecting them with plain tepid water. Insert a little loose cotton wool into the speculum to absorb any excess of injection, as also to protect the mucous surface of the rectum and anus. The stain on the wool, if any, will witness to the passage of the injection. Fill the syringe with the iodine solution of the selected strength, expel all air from it, pass the point of the nozzle a little way into the fistula, and force the injection through it. If there are any cutaneous sinuses, with a little dexterity, they may also be injected at the same time: or, the instrument may be refilled, and every sinus injected, although this is not always absolutely necessary. Previous to the operation, or as soon as convenient, I introduce a suppository into the rectum containing half a grain of morphia.

If the fistula is *incomplete*, or blind external, no speculum is required, but it is necessary to attend to the following particulars:—Dilate the external orifice if necessary, and sound the sinus delicately with a blunt pointed probe, avoiding to make false passages. Having found the "bearings" of the sinus, clean it out with tepid water, pass in the gold tube of the nozzle as far as possible and inject. If this is not attended to, and a portion of the pyogenic surface or membrane is left untouched at the cæcal extremity, failure may result. It is not necessary that the injection should be retained; I generally press the parts immediately, so as to expel as much as possible; it seems sufficient that the surfaces are touched.

Where the internal aperture of a complete fistula opens into an ulcer, the ulcer should be incised immediately before injecting. It will certainly heighten the pain, but I believe such incision to be essential. Or, it may be more conveniently accomplished by two operations; first, incise the ulcer, which will be healed in three days or so, and as soon thereafter as is thought desirable, inject the fistula. I followed this plan lately, in a case where I was kindly assisted by my friend Dr. Taylor, of Walton Lodge, who first suggested the idea of dividing the operation.

Regarding the repetition of the injection, I would remark, that, if the first is properly performed, and of the proper strength, a second operation ought not to be required. In the event of failure, I do not repeat the injection before the expiration of the third day; and I am convinced, that, if such is necessary, on each occasion the solution ought generally to be increased in strength. I have only once known No. 3 fail in producing adhesive inflammation in cases of fistula *in ano*, by a single injection, the cause of failure seemed to be over action; and I have not met with a single bad consequence, pain excepted. To judge of the proper strength to inject, I am guided by the age of the fistula and by the pain produced while probing.

Subsequent effects: Pain, and the Stains of Iodine. Although in many patients pain is little complained of, in others it may be so great as to require the immediate administration of chloroform, which may be given without fear, so long as the patient suffers pain, notwithstanding the previous half grain of morphia. Suppositories and poultices of ice will also be found useful. Water, or a weak solution of liquor potassæ, is a good antidote, the latter converting the iodine into the iodide of potassium. A still better may be found in an emulsion of starch, which has the power of resolving the free iodine into the perfectly inert iodide of starch.

In the event of any stains of iodine getting on the linen, whether blue from the presence of starch, or brown from its absence, a solution of liquor potassæ in the proportion of one part to eight or ten of water will speedily and safely remove them. For this useful information, I am also indebted to my friend Dr. Taylor. It is much safer than the cyanide of potassium, as any stains on the skin of the patient may also be safely removed by it.

Contraindications. If the patient's health is in a low condition, or if the sinus or fistula is of recent date, or if there is a pouch-like cavity on introducing the probe and sounding, I do not operate. In such cases, the patient should be placed on good diet, with change of air and sea-bathing if possible, or the cold sitz-bath with alum, the cold douche, or cold sponging. At the same time, the fistula should be injected occasionally with a solution of tannin or of tincture of steel. In short, all means, constitutional and local, which are calculated to improve the health and produce contraction and consolidation of the cavity, ought first to be adopted; the injection of iodine may then be used with effect. If any local or constitutional irritation, or more than usual inflammatory action is present, it must first be subdued by proper means.

The after-treatment need scarcely be mentioned. A little opium, to allay pain and keep the bowels quiet, with ordinary diet, and keeping the patient at rest for a day or so, are about the only directions necessary.

I have been thus minute in details, in order that there may be as little excuse as possible for reports of failure by those who may try their prentice hand at the operation.

Possibility of its return. In the case I recorded in the Journal, the fistula was closed upwards of nine months. The cause of the return was a fresh phlegmon, established in the site of the old fistula during the course of an attack of scarlatina. It ought not to be wondered at, if the fistula should also return in cases where the mucous membrane is perforated extensively by ulceration. In these cases, there are often hæmorrhoids, accompanied with dilatation of the rectum, and, possibly, ball-valve obstruction—these conditions being very common in the female. In such patients, and those who suffer from habitual constipation, the mucous membrane becomes jammed and lacerated by the undue pressure it is exposed to between the hardened fæces and the point of the coccyx, more especially during the act of defecation. Under such circumstances, perforation of the mucous membrane again takes place, fæcal matter gets into the cellular tissue, fresh abscess and fistula result, and we feel disappointed. Why? because we do not consider that similar causes will always produce similar effects, whether we incise or inject, or whatever method we may adopt for the purpose of cure. Measures should be adopted to obviate the above conditions, if they exist, otherwise disappointment will certainly follow.

Advantages. I am not so enthusiastic as to suppose that injection with iodine is at all likely to supersede the knife; no one can possibly have greater confidence in the knife than myself; but it is a difficult matter sometimes to inspire our patients with the same amount of confidence and love for it. I advocate the claims of iodine as being next in certainty to the knife, and as being infinitely less dreaded by the patient. When we contrast the perfect innocuousness of injection (barring pain), its simplicity, and its wonderful efficiency, with the possible and not at all improbable dangers of incised wounds of the anus and rectum, and as "we ought to do unto others as we would be done by", I cannot help suggesting, that injection with iodine ought, in the majority of cases, to take precedence of the knife.

Concluding Remarks. I will only add in conclusion, that it has been very successful in my hands; in fact, it has rarely failed. I have injected sinuses of many months standing, following bubo in the groin, with No. 1 or No. 2, and I have always been successful at the first injection. In one such case, a

gentleman had been most carefully treated by a skilful practitioner with cod-liver oil, syrup of the iodide of iron, and other tonics, sea-bathing with change of air, cold sponging, and such measures, but all to little purpose; the sinus kept on discharging. One single injection of No. 1, without the slightest pain or inconvenience, did all that was requisite. I gave him no prescription, which seemed to discourage him; but next day he reported himself cured. He has since been to Montreal and back on mercantile business, and the sinus remains perfectly healed. Sinuses about the nipple, mamma, axilla, and vulva, I have treated with similar success; also sinus in the gums following gumboil.

About a month ago I had a case, where I had good reason to suspect a carious condition of the root of a tooth or rather of the alveolus; I requested the lady to see a dentist, but she declined. I injected the cloaca once with No. 3; the *fœtid-sanious* discharge ceased, and the mucous surface closed over the opening. I would here remark, that whether this was a case of genuine caries or not, considering the success obtained by M. Lugol in the use of iodine in this disease, it deserves a further trial. M. Lugol used baths and frictions of iodine, at the same time that he injected the fistulæ with his solution No. 2. I would not recommend injection in the caries of joints, or where the disease is deep-seated, nor in the immediate neighbourhood of serous or synovial membranes. If it is to be at all successful, I think it should be limited to superficial caries, where the disease is not extensive or very far advanced, and in those cases only which are likely to be benefited by a stimulating and caustic treatment. Caries of the bones of the tarsus would probably be the most favourable for the treatment. I would first clear out the diseased part with tepid water, and then inject from five to ten minims or more of the *ethereal* solution No. 3, and I would not repeat it until the effect of the first injection had passed off. Constitutional treatment, as a matter of course, must precede, accompany and follow the local means. I have, however, had no experience of injection of iodine in caries beyond what I have stated. Lastly, I was asked by a lady to see her servant, whose appearance was disfigured by scrofulous enlargement of the glands of the neck, with two of them discharging slightly. I injected them with No. 1; they have ceased to discharge, but how long they will continue so, I cannot say.

EAST ANGLIAN BRANCH.

ULCERATION OF THE DUODENUM, CAUSING DEATH BY EROSION OF THE PYLORIC ARTERY.

By W. H. Ranking, M.D.Cantab., Physician to the Norfolk and Norwich Hospital, Norwich.

[*Read July 8th*, 1859.]

In May of last year, I was first consulted by a gentleman, aged about 50, residing in Lowestoft. He was an emaciated man, with a sallow complexion, but enjoying a fair amount of physical power. His only complaint was one which had tormented him for years, viz., pain and flatulence after eating, which would be relieved by carbonate of soda, which he was in the habit of taking largely, with the effect of eructation of gas, followed by immediate relief.

Seeing nothing more formidable in these symptoms than irritative dyspepsia, for which a mere palliative treatment had been adopted rather than any curative measures, I prescribed a somewhat inelegant, but in most such cases a very efficient, mixture of bismuth and nitro-hydrochloric acid, in infusion of calumba, with the result of very considerable amendment. The last occasion on which I saw the patient at this time was that of a long country walk, which he accomplished with less fatigue than myself.

I lost sight of him from this period till the 2nd of September last, when he called upon me in a very much deteriorated condition. His history of himself was that he had gained much in general health and strength for some time after I had seen him at Lowestoft; but, relapsing, he had placed himself under the care of my friend, Mr. Worthington, from whom I learned that he had been seized with great gastric derangement, accompanied by slight jaundice and frequent bilious vomiting, with epigastric pain, from which, however, he rallied sufficiently to travel into a distant county. But from this time he appears never to have regained his strength, and it was this fact which induced him to see me on the day last referred to.

At this time he had manifestly lost ground in appearance and strength; but still his complaints were solely such as might be referred to long continued functional dyspepsia, and such I should still have considered it to be had not his peculiarly sallow complexion led me to apprehend some malignant degeneration. I wrote to Mr. Worthington on the subject, without any misgiving as to immediate danger; but next morning I received a telegram to visit him by the next train, as he was in imminent peril.

The account I now obtained from him was, that after leaving my house he had taken a light luncheon, and returned to Lowestoft by an evening train; that on arriving at home he was observed to look extremely pallid and faint, and, on going to the water-closet, passed, *per anum*, a large quantity of blood, after which he became collapsed and apparently in a sinking state.

On meeting Mr. Worthington, and Mr. De Morgan of London, who happened to be visiting Lowestoft, we found the patient in bed, blanched to an extraordinary degree, with jactitation, and all the well known effects of severe loss of blood. No farther action of the bowels had at this time occurred; but he had lost his epigastric pain entirely, and was himself assured that he had derived benefit from the spontaneous loss of blood.

A most careful examination was made of the abdominal region, and we came to the conclusion that there was no abdominal tenderness, no pyloric tumour, and as far as we could determine microscopically, from the examination of some grumous matter ejected from the stomach, that there was no evidence of cancerous degeneration of that organ. The patient was clearly at this time labouring under the effects of loss of blood, and the question discussed was whether the loss of blood was due to simple portal obstruction, or to ulceration of the intestines. The only point we could feel any conviction upon was that there was no evidence of cancerous degeneration. Under these circumstances our efforts were limited to the endeavour to check the intestinal hæmorrhage, and to maintain the vital powers under the loss already sustained.

He, however, derived little or no benefit from the medicines prescribed; but he lay continuously in a state of extreme anæmia, with nausea, violent action of the heart, loud systolic *bruit*, and other signs of serious loss of the vital fluid. I met Mr. Worthington three or four times after this, but nothing we could devise succeeded in rallying to an extent which could be considered satisfactory. The result was that after several transient attacks of fainting, the patient was seized with one of more than common severity, and before Mr. Worthington, who was hastily summoned, could arrive, he expired.

The *post mortem* examination fully explained the inefficacy of treatment, and the inevitably fatal termination. The body was exsanguine to the last degree, and emaciated. The lungs, heart, liver, and abdominal viscera were bloodless; but otherwise healthy to all appearance. The stomach was thin, and contained some grumous fluid; but there was no cancerous degeneration or other organic change. The explanation of the symptoms was found in the duodenum, in the presence of a rounded ulceration just below the pyloric orifice, in which was an eroded opening into the pyloric artery, large enough readily to admit a large probe.

Remarks. The points worthy of remark in this case, are the comparative rarity of the presence of an isolated ulcer in the duodenum, and the fortuitous accident of its occurring over a vessel of so much importance as the pyloric artery. It is easy to see that the actual giving way of the vessel took place in the train, on his journey home; the effusion of blood into the bowels fully accounting for his sudden faintness. The passing of blood immediately on his arrival home made the history complete.

The case also affords another instance of the difficulty, if not impossibility, of diagnosing, in the early stages, mere functional dyspepsia from the symptoms of organic change.

ELATERIUM IN CHRONIC ASCITES. TREATMENT OF BOILS.

By C. M. Durrant, M.D., Physician to the East Suffolk Hospital, Ipswich.

[*Read July 8th*, 1859.]

The following two cases, which I shall have the honour of bringing before your notice, are not characterised by any peculiarity of symptoms or rarity of occurrence, but are simply interesting in a practical point of view, as illustrating the very valuable effect resulting from the administration of elaterium, after the complete failure of other active remedies.

Case I. *Chronic Ascites from Fæcal Impaction.* A. B., aged about thirty, was brought to my house by her mother with the

following history. It was stated that she had enjoyed good health until between two and three years prior to my seeing her, when she had become habitually dyspeptic, obliging her to be extremely guarded in diet; to which was added considerable enlargement of the body. She had been under medical treatment from time to time, and during the intervals the body had resumed its natural size. These symptoms having recurred, and having now existed (especially the enlargement of the abdomen) for some months, she was brought to me.

Her complexion was sallow; the tongue tolerably clean; the pulse feeble, but of natural frequency. She had no pain beyond slight inframammary pain, save some occasional dyspeptic uneasiness between the scapulæ; the bowels were torpid; the urine clear and fairly abundant; the catamenia were regular. The heart and lungs were healthy. There was no œdema of the ankles. She had habituated herself to taking much exercise, with a view (as she expressed it) to walk off these symptoms. Her mother stated her fear that dropsy might exist, although on a previous occasion she had been assured that such did not obtain. On pressing the body through the clothes, no indication of that affection was apparent; but, on examining *after* the removal of the stays, and in the recumbent posture, the body was found to be fully distended, percussion eliciting a universally dull sound, and palpation giving rise to the most unequivocal sense of fluctuation. In consultation with her usual medical attendant, mercury, iodide of potassium, with salines, and occasional purgatives were prescribed. A large blister was also applied to the abdomen. These remedies were persevered in for some time without relief; the general health being tolerably good, but the ascites remaining unchanged. The mercury, which had not affected the gums, was continued, and the abdomen rubbed night and morning with mercurial and compound iodine ointments. The iodide of potassium was exchanged for saline diuretics with ammonia. The urine became now perceptibly diminished in quantity and deposited lithates; but still the general health was very slightly affected.

These measures failing to effect the slightest good, she was ordered to take from a third to half a grain of the extract of elaterium on alternate mornings. This medicine, with the exception of producing great temporary sickness and depression, acted from the first more satisfactorily. The evacuations were very copious, dark, in scybalous balls of the size of marbles, and very offensive. It was not until the medicine had been continued uninterruptedly for many weeks, that an improved condition in the alvine excreta was perceptible. The fluid in the body, however, gradually diminished; and with a corresponding increase of the urinary secretion, the case ultimately quite recovered.

On examining the body after the removal of the ascites, not the slightest enlargement of the liver was perceptible; and throughout the treatment (which extended over a period of three months), the patient expressed herself, on the intermediate days of taking the elaterium, as feeling quite well. The mercurial pills and friction were continued, together with equable compression of the abdomen by a flannel bandage, but without producing any perceptible effect either upon the gums or the system in general.

Remarks. The chief points of interest in this case are: 1. The chronicity of the dropsy, its having apparently existed in a passive form for many months; 2. Its pathological cause, it being clearly attributable to fæcal impaction, producing, in addition to some probable compression of the vena porta, mechanical capillary hyperæmia, and consequent retardation of blood in the veins, with its resulting serous effusion; and 3. The happy effect obtained by a persistent exhibition of the extract of elaterium.

So great was the personal relief felt by the patient, that, despite the sickness and depression which were invariably caused by the remedy, she begged repeatedly that its use might not be suspended "until she was quite well".

As a practical hint, I would caution the examiner against hazarding an opinion relative to abdominal disease from an investigation made through the medium of a female's dress. In the foregoing case, the indications of dropsy, prior to the removal of the stays, was so slight, and the body *apparently* so yielding, that a mistake in the diagnosis, and a consequent incorrect opinion, might very readily have been given.

Case II. *Chronic Ascites, cured by Elaterium: Recurrence: permanent Cure by the same Remedy.* A married woman, aged 28, the mother of one child, applied as an out-patient of the Ipswich Hospital for a swelling of the body. On examination, the abdomen was found to be uniformly distended, slightly tender on firm pressure at the upper part, dull on percussion, and with distinct, well marked fluctuation. She stated that her body had been enlarged for fifteen months, and she herself attributed it to her previous confinement. On application, her health was good; tongue clean; the bowels and catamenia regular; urine diminished in quantity, but in other respects healthy. Her only complaint was a feeling of abdominal weight, and a sense of dypsnœa on exertion. Nothing abnormal presented in reference either to the heart or lungs.

As in the previous case, a blister was ordered to be applied to the abdomen, and mercury with the iodide of potassium in salines was administered. At first, she improved under this treatment; the fluctuation became less evident, and the abdomen considerably diminished in size. The gums were affected by the mercury. The improvement, however, did not continue; and a second blister, and subsequently the mercurial with the compound iodine ointments, were rubbed into the abdomen. No benefit following this treatment, she was admitted as an in-patient of the Hospital.

The ointment was directed to be continued; acetate of potash with spirit of nitric ether, as a diuretic, was prescribed, and the elaterium, in doses of one-third of a grain, was directed to be taken every or on alternate mornings, according to the effect produced. As in the other case, great sickness and depression attended the operation of this medicine, but equally satisfactory results obtained. The abdomen soon became completely emptied of its serum; but on now examining the body, the right lobe of the liver was found to be slightly enlarged, extending about an inch below the ribs. This condition of the liver had been masked by the dropsy on the previous examinations.

The patient left the hospital apparently cured, and feeling quite well. She reapplied, however, at the end of three weeks with some reaccumulation of fluid. The same treatment was at once resorted to; and although the elaterium acted less powerfully as a purgative than on the former occasion, the same satisfactory results obtained, and the patient has remained free from any return of the disease.

Remarks. This case, although of less duration than the former, tends equally to indicate the utility of the treatment. Prior to the exhibition of the elaterium, the ascites remained stationary, despite repeated blistering, and mercury given to the extent of producing very considerable tenderness of the gums. With similar cases before us, we may perhaps ask the question, whether, in the present day, we have not too much laid aside the Abernethian mode of treatment, and adopted too sparingly the more general use of free purgation. I confess that I think such to be the case; and, while making these somewhat desultory remarks upon the use of elaterium in simple ascites, I would briefly, in conclusion, call the attention of the meeting to the use of purgatives in the treatment of boils.

The very general prevalence of boils during the past few years has directed the attention of the profession more particularly to the treatment. In the earlier stages, or unless the disease be very severe in its character, the patient too generally is satisfied to leave the case to nature, submitting to a large amount of pain and inconvenience, rather than apply for medical advice. The cases that have presented themselves to my notice have been very severe in character, very chronic in duration, and more or less disabling the patient from following his usual avocations.

The treatment which I have generally found to have been previously advised (for these patients have sought a variety of opinions) has been a full nutritious diet of meat, with port wine and quinine, with other tonics as much as could be borne, followed by change of air and the seaside. This treatment having failed, and viewing the existence of boils as the result of an impure condition of the blood, the result of faulty assimilation, I have commenced the treatment at once with purgatives, and, I must confess, with the happiest results. The patient has been directed to take the compound extract of colocynth, blue pill, and acetous extract of colchicum, on alternate nights, followed, if necessary, by a warm aperient draught on the following morning. During the day, the acetate of potash, with small doses of the tincture of colchicum, and the aromatic spirit of ammonia. He has at the same time been directed, on the slightest appearance of a fresh boil, to paint the spot immediately with a strong solution of the nitrate of silver (℥ij to the ℥i). If the boil be already formed and indolent, the conjoint application of the nitrate of silver with poultices will be proper. I have used the strong tincture of iodine, but with far less satisfactory result in stopping the

formation and progress of the boil than from the nitrate. Should debility remain after the subsidence of the boil, the cod-liver oil and sulphuric acid, as recommended by Dr. Watson, is the best tonic.

All malt liquors should be debarred; but sherry wine, to the extent of two or three glasses in water daily, may generally be allowed. The best diet is meat on alternate days with fish; but this, during the attack, must always be unstimulating and easily assimilable.

I must apologise for introducing so apparently trivial a subject to the meeting; but, as we all know by daily experience that the most common diseases are by no means invariably the most easy to cure, so we may perhaps be thankful to glean from any source a passing hint, which may, sooner or later, be of use in assisting us in the high vocation of our profession, viz., the aid of a fellow-creature suffering from disease.

British Medical Journal.

SATURDAY, SEPTEMBER 3rd, 1859.

THE TRIAL OF THOMAS SMETHURST.

The letters that have appeared in the *Times* since our last, with reference to the Smethurst trial, have only tended to confirm more strongly the general opinion that there is not sufficient proof that Miss Bankes was poisoned, and that the execution of Smethurst, under these circumstances, would be nothing less than a judicial murder. The medical press and medical men generally have done their duty towards the condemned man, and his fate now lies in the hands of the Home Secretary. There remains, however, a higher duty to be performed by our profession than the rescuing of this individual life. This trial has, without doubt, left upon the public mind a very painful impression of the inadequacy of medical and scientific evidence, as at present conducted, in courts of justice. If every fresh suspected criminal is to drag medicine into the pillory, there to exhibit itself as it has done of late, we need not be surprised to find public faith in us rapidly departing. And if toxicology is to be represented to the world at large by two or three gentlemen who seem bent upon throwing as much polite mud at each other as they think will stick, very little dependence will be placed on their science as a handmaid of justice. If medicine, and its sister chemistry, are to hold that place which they deserve to have in criminal trials of this nature, we feel convinced that they must become state engines of a much more dependable character than we can at present accord to them. At the present moment, the life of a human being is often placed at the mercy of mere hap-hazard examinations. At the coroner's inquest, the fees are often so insignificant as to be beneath contempt, as far as remunerative payment is concerned. For instance, a case of obscure death takes place, as in the instance of Miss Bankes; a *post mortem* examination is called for; and the medical man desired to perform it must do so at the call of the coroner, under a penalty of five pounds. In the course of his inquiry, he may find it necessary to pursue a most careful analysis; yet the whole remuneration he gets for his labour is a couple of guineas, or less than the value of the chemical tests he uses! If the case goes to a commitment, he may be further rewarded; but we hold, with Dr. Letheby, that it is disgraceful of the law to make the interests of the scientific witness and those of the accused directly antagonistic in this manner. Temptation to strain evidence should not be thus thrown in the way of any man.

And what security, we may ask, is there in the secret proceedings of any one man in investigations of this nature? A chemist receives a jar—it may have been upset on its transit, as in Palmer's case—and he forthwith sets to work in the seclusion of his laboratory to eliminate from it infinitesimal portions of poison; his instincts as a hunting animal are, perhaps, called forth. Be that as it may, however, what guarantee have we that some fatal error has not been made in the course of his long distillations? that his tests are pure? The matter subjected to analysis having been destroyed, the power of verifying his results no longer exists, and his bare word is often enough to send the accused to his long account. It is impossible that life can much longer be at the mercy of such hap-hazards as these. If test-tubes and wire-gauze are to be the fatal instruments of justice, the public should at least be convinced that no error has arisen in their application.

The farce must no longer be exhibited to the world of the three most celebrated toxicologists of the country contradicting each other in matters where there should be no possibility of doubt. Dr. Taylor, throughout his ample volume on *Poisons*, never allows an opportunity to escape of sneering at the scientific attainments of Mr. Herapath; and the latter gentleman, we must confess, is not behindhand in returning the compliment. Dr. Letheby is equally complimentary to Dr. Taylor. A sort of triangular duel goes on between these three toxicologists, whenever occasion arises. The public at large are scandalised, and ask in amazement, whether there can be anything in poison-hunting which breeds these unnatural storms in regions where the calm atmosphere of science should alone prevail. The public should no longer have exhibited to them the spectacle of professional men stabbing each other's reputations over the bodies of malefactors; and the medical profession, if it is wise, will strain every nerve to put an end to such suicidal proceedings.

We believe that, sooner or later, the necessity of submitting analyses in criminal trials to two or three eminent toxicologists, selected by the Crown, will be adopted. The very differences of professors, when acting together, would only tend to call forth the truth. They would watch each other, and thereby watch for the accused person; we should have no disputes in court about impure tests; and their finding would silence the cavils of mere outsiders, anxious to hear their own voices, and to puff themselves. The institution of a State engine of this kind would clear the ground of much of the conflicting testimony which at present so perplexes juries.

But, it may be asked, is a jury of twelve tradesmen a sufficiently nice instrument to weigh the conflicting medical evidence that may be always expected in such cases as that of Isabella Bankes? We think not. Indeed, the judge in Smethurst's case expressly stated that details of *post mortem* appearances would probably not be understood by the jury. Here is a confession of weakness, ill calculated to give the public confidence in the verdicts of our juries when life and death are concerned. In the ordinary disputes between man and man, twelve tradesmen are as likely to give a good verdict as any other persons in the country; but we question their ability to thread the deli-

cate paths of such a case as Smethurst's; and we fear that in their bewilderment they are but too apt to give fatal weight to the summing up of the judge, impartial or partial as that may be. In the present case, it seems to be universally admitted that the judge allowed his own impressions to tinge far too deeply his summing up, inasmuch as he prominently set forth the points that told most strongly against the prisoner, and ignored those which were most in his favour. With ill informed men, this one-sided leaning would tell with much greater effect than with persons of a higher stamp, accustomed to think for themselves. It seems extraordinary that the grand jury, which does the comparatively light work of roughly sifting the cases brought before them, should be composed of gentlemen, while all the more subtle labour of examining evidence in its utmost ramifications, requiring the finest mental organisation, should be allowed to devolve on a class far below in the social scale. We feel convinced that a few more trials, such as that which has just passed, in which the verdict of the jury has been universally called in question, will shake the faith of the public in the capabilities of butchers, bakers, tailors, and grocers, to sift delicate scientific evidence in trials where life and death are concerned.

THE WEEK.

It is rarely that an event occurs which calls forth such an universal expression of opinion as has been elicited by the trial of Thomas Smethurst. The daily papers, ever since the event, have been inundated with letters, the writers of which are all but unanimous in support of the view that the evidence adduced was utterly inadequate to prove the commission of the alleged crime. Among the correspondents, several write with the object of confirming, from their own observation, the statement of the occasional occurrence of severe gastro-intestinal disturbance during pregnancy. Dr. Tyler Smith has addressed a letter to the *Times*, in which he examines in detail several of the symptoms referred to as having been present in the case of Isabella Bankes, and shows, from his own experience and study, that all these are to be fully accounted for by the fact of pregnancy. As to the circumstance of pregnancy having been overlooked by the medical attendants on the deceased, he observes that

"It cannot but be considered as remarkable that three medical men should have been in attendance upon a woman forty-two years of age, living for the first time as a married person, who had been suddenly seized with an illness of which vomiting was a prominent symptom, without detecting pregnancy. They appear to have been misled by the information given to them by Smethurst as to the absence of one of the common symptoms of pregnancy, and they made no examination. Smethurst himself appears not to have suspected pregnancy. As regards Dr. Todd, it may be accounted for by the circumstance that, however undisputed his great eminence as a pure physician may be, he is not accustomed to treat the disorders of pregnancy. However the fact may be, the medical attendants certainly formed a conclusion while they were without the knowledge of a very important element of the case."

This straightforward letter of such an authority in obstetric matters as Dr. Tyler Smith, must have great weight with the public in guiding and strengthening their opinion on the case of Smethurst. We have also before us, in the form of a pamphlet, a letter to the Home Secretary, from Drs. Richardson, Thudichum, and Webb, three of the witnesses for the defence, a part of which is occupied with a still more elaborate examination of the question of the possibility of accounting for the symptoms in the case of Isabella Bankes by pregnancy, than could be entered on in the columns of a public paper. The object of the writers has been to place before Sir G. C. Lewis a simple history of the grounds of their evidence. They confine themselves altogether to scientific details, medical and chemical, leaving the circumstantial evidence as foreign to their object. In the letter, which is written throughout in a temperate style, they examine the following questions:—

"Was the death of Isabella Bankes compatible with natural disease as the producing cause?

"Was the death of Isabella Bankes compatible with the hypothesis of poisoning by arsenic, antimony, or both?"

For the arguments by which the writers of the letter strengthen their answers to these questions—to the former in the affirmative, and to the latter in the negative—we must refer our readers to the letter itself, which is published by Mr. Baillière of Regent Street. The summary of their argument is thus given by them:—

"1. The symptoms and pathology of Isabella Bankes were consistent with dysentery occurring in a pregnant and previously unhealthy woman; and her death is fairly ascribable to such producing cause.

"2. The symptoms and pathology of Isabella Bankes are *not* consistent with the hypothesis of poisoning by arsenic, by antimony, or by both these poisons; nor is death fairly ascribable to them.

"3. There is no chemical proof whatever that either antimony, arsenic, or any other irritant poison was ever feloniously administered to Isabella Bankes."

The following is a copy of one of the clauses of an Act which was passed at the end of the last session of Parliament:—

"The Stamp of Fifteen Pounds for and in respect of the Admission or Licence of any Person by the College of Physicians in *England* or *Scotland* to exercise the Faculty of Physic, or practise as a Licentiate, granted by the said Act passed in the Fifty-fifth Year of the Reign of King *George* the Third, Chapter One hundred and eighty-four, and the like Duty now payable in *Ireland* by and under an Act passed in the Fifth and Sixth Years of the Reign of Her present Majesty, to assimilate the Stamp Duties in *Great Britain* and *Ireland*, shall from and after the passing of this Act be and the same are hereby repealed."

This is the only clause in the Act which refers to the subject of stamp duties on medical diplomas. It will be seen that the only stamp duty repealed is that on the license of the Colleges of Physicians; and that the stamp duty will still have to be paid for the diplomas of the Universities or of the Colleges of Surgeons. The Act will relieve from the tax those graduates who will henceforth be admitted under the provisions of the "year of grace": and it will also remove any liability to the payment of a double stamp duty in the case of practitioners who may, in the time to come, be admitted under the contemplated co-operation of the Colleges of Physicians and Surgeons.

We have had great pleasure in learning that the medical men of Birmingham have taken the initiatory steps towards the formtion of a Medical Registration Association for that town and the Midland Counties. A meeting for the purpose was held in Birmingham, on August 20th, Dr. Bell Fletcher in the Chair; and among the members present were Drs. Melson, Heslop, Anthony, F. Elkington, and Keyworth; with Messrs. Bartleet,

T. Taylor, Tarleton, Chesshire, G. Elkington, W. Underhill (Tipton), W. E. Johnson (Dudley), etc. Mr. Moore (Halesowen), President-elect of the Birmingham and Midland Counties Branch, and Mr. Pemberton, one of the Secretaries of the Branch, sent letters expressing their desire to co-operate. The following resolutions were passed:—

"1. That a Medical Registration Association be formed, to be called the 'Birmingham and Midland Counties Registration Association,' for the purpose of assisting the Registrar in securing a complete registration of duly qualified practitioners, and for protecting the profession and public against illegal practice; and, when necessary, for watching the working of the new Medical Act.

"2. That all *orthodox* practitioners of medicine and surgery, residing in Birmingham and the surrounding districts, who are entitled to be registered under the new Medical Act shall be eligible as members.

"3. That a Provisional Committee be, and is hereby formed, of those gentlemen who may signify their willingness to act. That such provisional Committee be requested to consider the best mode of carrying out the objects of the Association, in order that a report upon the same may be presented to a general meeting of the profession."

Mr. Samuel Spratly was requested to accept the office of Honorary Secretary *pro tempore*.

Mr. R. Gillard, the Secretary to the Thorne and Goole Medical Registration Association, has furnished us with the particulars of a prosecution recently instituted by that Society against an unlicensed practitioner. The case was tried at the Snaith Petty Sessions, on August 25th. The defendant, one Thomas Firth Dewhirst, has been in the habit of styling himself "Dr. Firth and Co.," and of placarding the country for miles round Goole with handbills of a more or less filthy character. In some of the bills, the device of erasing the letter "r" from "Dr." had been cunningly resorted to. The special charge on which the defendant was tried was that of having falsely assumed the name and title of a Doctor of Medicine, in June last: another similar charge, dating the offence in August, was not entered into, in consequence of the absence of a material witness. It was proved that the defendant's name was not in the Register; and several witnesses gave evidence in proof of the defendant's assumption of medical titles, and of his having practised. The magistrates found the charge fully proved, and fined the defendant £5, with £1 : 17 costs. This is the largest fine which, to our knowledge, has been inflicted in a similar case. We cannot conclude this notice without commending the energy which has been thus shown by the practitioners of a comparatively small country district in Yorkshire. Their example is worthy of being followed by others in like situations.

Association Intelligence.

LETTERS AND COMMUNICATIONS.

Letters or communications for the Journal should be addressed to Dr. Wynter, Coleherne Court, Old Brompton, S.W.

Letters regarding the business department of the Journal, and corrected proofs, should be sent to 37, Great Queen Street, Lincoln's Inn Fields, W.C.

A List of the Members of the British Medical Association will shortly be published in the Journal. Gentlemen whose designations or addresses, as given in the lists published on July 24th and October 9th, 1858, and June 18th, 1859, are inaccurate, will oblige by at once forwarding the necessary corrections to Dr. Williams, Worcester, or Dr. Henry, 37, Great Queen Street, London, W.C.

ADMISSION OF MEMBERS, AND PAYMENT OF SUBSCRIPTIONS.

The General Secretary of the British Medical Association begs to call attention to the Laws regarding the Admission of Members, and the Payment of their Subscriptions.

"*Admission of Members.* Any qualified medical practitioner, not disqualified by any bye-law, who shall be recommended as eligible by any *three* members, shall be admitted a member at any time by the Committee of Council, or by the Council of any Branch."

"*Subscriptions.* The subscription to the Association shall be One Guinea annually; and each member, on paying his subscription, shall be entitled to receive the publications of the Association for the current year. The subscription shall date from the 1st January in each year, and shall be considered as due unless notice of withdrawal be given in writing to the Secretary on or before the 25th of December previous."

Either of the following modes of payment may be adopted:—

1. Payment by Post-Office Order to the Treasurer (Sir C. Hastings, M.D., Worcester), or to the undersigned.

2. Payment to the Secretary of the Branch to which the member belongs.

3. Members residing in the Metropolis and vicinity can make their payments through the publisher of the British Medical Journal, Mr. Thomas John Honeyman, 37, Great Queen Street, Lincoln's Inn Fields, W.C.

Philip H. Williams, M.D., *General Secretary.*

Worcester, September 1859.

Reports of Societies.

ROYAL MEDICAL AND CHIRURGICAL SOCIETY.

Tuesday, June 28th, 1859.

F. C. Skey, Esq., F.R.S., President, in the Chair.

TRACHEOTOMY IN CROUP. BY CONWAY EVANS, M.D.

The author commenced by remarking upon the frequency and fatality of croup as a disease of early life, in illustration of which he observed that out of every thousand deaths of children between the ages of one and ten years, which occurred in England and Wales during the year 1856, sixty were due to this malady. He then proceeded to examine into the rate of mortality from croup, and pointed out the very slight measure of success which has hitherto attended the methods of treatment usually employed in this disease. Six cases—four of croup and two of diphtheria (?)—in which tracheotomy was performed, were then narrated. The author then inquired into the reasons why tracheotomy is so rarely resorted to for the relief of this malady in Great Britain, and traced this mainly to the influence of the strong opinions against the operation which have from time to time been pronounced by many great authorities. The objects to be gained by the performance of tracheotomy in croup were next pointed out, stress being laid upon the fact that the operation affords time for the disease to run its course (which would frequently not involve the destruction of life, except for the occurrence of asphyxia), and for the administration of remedies. The principal objections which have been urged against the performance of tracheotomy in croup were then considered. The results of tracheotomy for the removal of foreign bodies from the air-passages were investigated, as well as those of the performance of this operation for the relief of other maladies than croup; and several illustrative cases were related. The conclusion deduced was that tracheotomy, though frequently a difficult operation, is by no means so dangerous a proceeding as is commonly supposed. The want of success which has attended the performance of tracheotomy in croup in this country was attributed chiefly to the following circumstances; 1. Tracheotomy has been very rarely indeed resorted to in croup in Great Britain, except as a last resort, when other methods of treatment have been found unavailing, and when the patient has become nearly asphyxiated; 2. The treatment employed prior to the performance of the operation has almost always been of a more or less depressing kind; 3. The after treatment has generally not been of that supporting character which nature requires for the due upholding of the patient's strength until the phenomena of croup shall have had time to run their course; and

to the difficulty experienced in commanding constant attention in the way of nursing and watching for some days after the performance of the operation. The author strongly urged the propriety of having recourse to tracheotomy for the relief of croup early in the disease, and immediately that the existence of false membrane in the windpipe can be satisfactorily determined, and emetics have been fairly tried. *a.* Because tracheotomy tends to prevent death by asphyxia. (*b.*) It facilitates the ejection and removal of portions of false membrane from the windpipe. (*c.*) It tends to prevent the exhaustion due to the extraordinary efforts of breathing almost always made by the patient. (*d.*) It affords time both for the phenomena of the disease to run their course, and for the administration of remedies and of means of support. (*e.*) It facilitates the employment of topical applications to the interior of the windpipe. (*f.*) The early performance of tracheotomy in France has been attended with results which are admitted, even by the opponents of the operation, to have been far more favourable than when recourse has been had to this procedure as an ultimate expedient. The cause of death in those cases of croup in which a fatal termination ensues, notwithstanding the performance of tracheotomy, was stated to depend upon one or more of the following conditions: 1. Some accidental circumstance, such as hæmorrhage into the windpipe, obstruction of the tube, etc. 2. Asphyxia dependent on the extension of the croupous exudation into the lungs, or on the re-formation of the false membrane after it has been once ejected. 3. Complicating diseases arising in the course of the croup, such as bronchitis or pneumonia. 4. Exhaustion—death by asthenia. The author believed that croup, when it proves fatal, always tends to destroy life by exhaustion; and that this would be its ordinary mode of termination, were it not that the mechanical obstruction, as well as the spasmodic closure of the larynx, tend to destroy life by suffocation before the disease has had time to run its full course. And he, therefore, strongly advocated the propriety of adopting a supporting plan of treatment in this malady. The value of alcohol, as a remedial agent in the treatment of disease, was then examined, and the method in which it should be given—viz., in small doses, at short but regular intervals—was pointed out. Alcohol should be regarded not as a specific remedy, but simply as a kind of food. The *modus operandi* of the remedies usually employed in croup was then discussed, and their real value indicated; and the error of supposing this disease to consist in ordinary inflammation of the windpipe was alluded to. The value of emetics was also examined, and the danger which frequently results from the employment of tartar emetic was dwelt upon. The circumstances which tend to diminish the chances of success from tracheotomy were referred to under the following heads:—*a.* The age of the patient; *b.* The existence of pneumonia or bronchitis; *c.* The presence of other diseases, such as measles, whooping-cough, etc.; *d.* The employment of depressing remedies prior to the operation; *e.* The postponement of tracheotomy until the patient is *in extremis*; *f.* The extension of the croupous exudation into the lungs. After suggesting a few practical hints in connexion with the operation itself, and in regard to the inhalation of chloroform, and briefly glancing at the various points which had been examined in detail, the author concluded.

CALCULUS OF UNUSUAL SIZE REMOVED BY THE RECTO-VESICAL OPERATION. BY GEORGE SOUTHAM, ESQ.

The patient, aged 21, was admitted into the Manchester Royal Infirmary with symptoms of vesical calculus, from which he had been suffering about sixteen years. On sounding him the stone was found to be of large size. He was emaciated almost to the lowest point compatible with life, unable to leave his bed, and suffering from a constant desire to empty the bladder, with severe pains in the loins and the lower part of the abdomen. The urine was loaded with pus, which, on standing, formed a thick white viscid sediment. It was highly ammoniacal, and a very considerable quantity of albumen was precipitated by boiling and the addition of nitric acid. Operative procedures were deemed unadvisable until the hectic fever and great debility under which he was labouring were relieved. He was therefore placed on nutritious diet, with eight ounces of wine daily, and the bicarbonate of potash with opium, and large dilution with water, were given to allay the irritation of the mucous coat of the bladder. Under this treatment, the patient's strength so much improved that in a month the question of operation had to be entertained. Judging from the long period of sixteen years, during which the stone had been growing, the grave effects it was producing on the health of the patient, and from the more certain evidence of examination by the sound and the finger introduced into the rectum, Mr. Southam was convinced that the concretion was large. The bladder had become so contracted by long inflammation that only a few ounces of fluid could be injected into it. The general health was still precarious, and, to crown the embarrassment, there was still a copious deposit of albumen in the urine. Did this indicate degeneration of the kidneys? If so, any thought of operation must be renounced. To the solution of this difficulty the microscope now afforded valuable assistance, and by this instrument the urine was repeatedly examined to discover whether any fibrinous casts of the uriniferous tubes were present. None, however, were found; nor any reliable indications of renal epithelia. And, on the more accurate comparison of the quantity of pus and blood in the urine with the amount of albumen precipitated by nitric acid and heat, the conclusion was come to that the albumen came from no higher source than the bladder itself, and was simply deposited from the liquor puris and small quantity of blood always present in the urine. As the kidneys were considered not to be implicated, on the 17th of December the calculus was removed by the recto-vesical section. Chloroform having been administered, and about half a teacupful of warm water injected into the bladder; a scalpel, guarded by the finger, was introduced into the rectum, and the sphincter and lower part of the anus completely divided. The urethra was opened anteriorly to the prostatic portion, and the finger passed through the wound into the bladder. As was suspected, the calculus proved to be of large dimensions. Accordingly, the wound in the prostate was enlarged. By means of the finger the rest of the prostate and neck of the bladder were sufficiently dilated to admit a pair of forceps. On the introduction of the forceps it was found to be impossible to grasp with them so large a stone, as the contracted and indurated state of the bladder prevented the divergence of the blades. A scoop was now used, but with no better success: the stone could not be disturbed from its original position. Finding it difficult to lay hold of the calculus in the usual way, Mr. Southam had the screw of a straight-bladed forceps removed, that the blades should be separately introduced, one over, and the other below, the stone. The handles having been brought together, and the screw re-inserted, the calculus was grasped and slowly extracted; the operation occupying from ten minutes to a quarter of an hour. The calculus measured eight inches in circumference in one direction, and seven in the other. It consisted principally of triple and earthy phosphates, with a nucleus of lithic acid. It weighed four ounces, six drams, and twenty-five grains. The patient had an excellent recovery; no constitutional disturbance of any amount followed the operation. The bowels were restrained in their action for a week by the administration of opium. Up to the 31st of December, all the urine passed by the rectum; it now commenced to come by the urethra. No inconvenience was at any time experienced from the passage of fæcal matter through the urethra. The pus and albumen gradually diminished in quantity. The fistula was not interfered with until the 18th of February, when, as some of the urine continued to pass through the rectum, it was examined. It appeared to be in the membranous portion of the urethra, and about a quarter of an inch long. It was touched once with nitrate of silver, and subsequently, on two occasions, the electric cautery was applied. He left the hospital on the 28th of April, cured, having for three weeks previously been free from all signs of the fistula, during which time he was engaged in assisting the nurses in the wards.

Mr. Southam did not advocate this operation except in especial cases, considering that the lateral method is the safest in the majority of instances. He was induced to resort to it in the above mentioned patient on account of the presumed large size of the stone, the indurated and contracted state of the bladder, and the unsatisfactory state of the general health. After referring to the risks which attend the lateral method, where the calculus is of large dimensions, he alluded to the objections urged against the recto-vesical operation, the principal of which is its liability to the formation of a permanent fistula. This, he believed, might to a great extent be avoided, if the incision into the urethra were limited to only a part of the prostatic portion. He considered it would be seldom necessary to extend the incision through the neck of the bladder, experience having convinced him that the obstacle to the extraction of large calculi by the lateral method existed more in the surrounding structures than in the prostate, which readily yields to steady and cautious dilatation. In the case now related, there was abundant proof of this: indeed, a cal-

culus of much larger dimensions than the one described could have been extracted without difficulty by the same incision. He proposed to call the operation the recto-urethral.

Editor's Letter Box.

DR. MARSHALL HALL'S READY METHOD.

Letter from Luke D. Smyth, M.D.

Sir,—As one fact is worth one hundred theories, I beg you will give this a place in our Journal.

Mrs. W. was delivered of an eight months child in the usual way, stillborn, and as there was no pulsation in the funis, I tied and cut it, and after a few minutes easily withdrew the placenta, which I observed was remarkably small. I put the child into warm water, and tried other usual means towards resuscitation, but in vain. Having placed the child in flannel, and pronounced it dead, I desired the nurses to put the woman to bed. The thought then occurred to me that I would try Dr. Marshall Hall's ready method: and accordingly I placed the child on its face and gently rolled it on one side, then on the other, for a few minutes; then I placed my right hand under its chest, and my left under its forehead, and commenced elevating and depressing my right hand. In a very few minutes the babe sneezed, the respiratory muscles began to act, I felt the heart pulsating at the point of my fingers, the skin lost its pallor and became ruddy, respiration was complete, and the child cried aloud, to my very great surprise and that of the women; and now I have the pleasure of stating that mother and child are doing well.

If my professional brethren would bear this in mind, and under similar circumstances, try "the ready method", I venture to predict that a large proportion of the stillborn children would be restored to life. I am, etc.,

L. D. Smyth.

Bingham, Notts, August 26th, 1859.

CHAMPAGNE A REMEDY IN DIPHTHERIA.

Letter from Edward Pritchard, M.D.

Sir,—During two years experience of diphtheria, I have found champagne of such service, that I feel it incumbent upon me to give my professional brethren the full benefit of trying its influence in the treatment of this terrible complaint. In the spring of the present year, I had the misfortune to be attacked myself, and shall reserve to some future period an account of its horrible nature. I give the wine in small doses, repeated at intervals of every three hours, beginning on the eve of each day. I am so confident of the specific character of this remedy, that where I have had cases occurring amongst the poor, I feel assured death has resulted from its being out of my power to employ it.

At present, I am too fully engaged to do more than ask a place in your columns in drawing the attention of the faculty to the subject. I am, etc.,

Edward Pritchard.

TREATMENT OF ABSCESS BY DRAINAGE-TUBES.

Sir,—In your last week's report of cases of abscess treated by means of Chassaignac's drainage-tube, under the care of Mr. Bowman, I observe the following remark: "The advantages of this plan in the treatment of empyema was recently insisted upon in a paper, by Dr. Stewart and Mr. De Morgan, read at the Royal Medical and Chirurgical Society." Since the above plan is only pursued by Dr. Goodfellow amongst the physicians of this hospital, and since the paper was read by him, with remarks on the operation by Mr. De Morgan, I think it is only fair to Dr. Goodfellow to have the full benefit of the credit for the complete success which followed the use of the drainage-tubes in all his cases.

I am, etc., Third Year's Student.

Middlesex Hospital, August 29th, 1859.

[The error to which our correspondent alludes occurred at p. 690, vol. i, line 23 from bottom. The name of Dr. Goodfellow should have been inserted in place of that of Dr. Stewart.—Ed.]

Medical News.

BIRTHS, MARRIAGES, DEATHS, AND APPOINTMENTS.

** In these lists, an asterisk is prefixed to the names of Members of the Association.*

BIRTHS.

Of sons, the wives of—

*Boodle, Robert H., Esq., Chilcompton, on August 29.
Burton, E. J., M.D., Cavalry Staff, Canterbury, on August 12.
Ellis, Robert, Esq., 63, Sloane street, on August 26.
*Lipscomb, Richard N., Esq., at Tring, on August 27.
Logan, T. G., M.D., Deputy Inspector-General, Army, on August 28. (Infant died same day.)
*Martin, Peter, Esq., at Reigate, on August 18th.
Martin, R. E., Esq., Surgeon, at Brighton, on August 25.
Parker, T. R. B., Esq., Abbotsbury, on August 22.
Shillingford, J. S., Esq., Peckham, on August 25.

Of daughters, the wives of—

*Brodhurst, B. E., Esq., Grosvenor Street, on August 22.
Masters, Maxwell T., Esq., at Peckham, on August 28.

MARRIAGES.

*Franklin, I. A., Esq., to Miss Theresa Segré, both of Manchester, on August 24.
*Hodgson, G. F., Esq., Brighton, to Elizabeth, daughter of R. M. Channey, Esq., Folkestone, on August 24.
Pryor, Rev. John E., of Baldock, to Mary Gertrude, daughter of R. Pett, M.D., Regent's Park, on August 23.
Shepherd, J. G., Esq., Paymaster H.M.S. *Cornwallis*, to Mary Ann, only daughter of E. Des Forges, Esq., Surgeon, South Cave, Hull, on August 13.
Shine, William L., Esq., Surgeon, to Eliza, youngest daughter of the late Fergus L. Graham, Esq., of Greenwich, on August 13.
*Swinhoe, G. M., Esq., of Charlton, to Diana M., second daughter of the Rev. T. M. Wrench, rector of St. Michael's, Cornhill, on August 13.

DEATHS.

Armstrong. On August 19th, at Dublin, Lancelot, infant son of L. Armstrong, M.D., 13th Light Dragoons.
Burnett. On August 22nd, at Chichester, aged 76, Maria, wife of Sir W. Burnett, M.D., K.C.B., R.N.
Butler. On August 25th, at Guildford, the wife of *W. H. Butler, Esq.
Fyffe. On August 21, at Notting Hill, aged 24, Catherine E. M., wife of W. J. Fyffe, M.D., Surgeon 5th Dragoon Guards.
Nesbitt. On August 30th, at Northampton, aged 14, Arabella Matilda, youngest daughter of *P. R. Nesbitt, M.D.
Taylor, Arthur H., Esq., Staff-Assistant-Surgeon, at Chelsea, on August 20.
Thompson, Wm., L.R.C.P., late of Newark, at Bath, aged 69, on August 19.

APPOINTMENTS.

*Swinhoe, G. M., Esq., appointed Surgeon to the Great Western Railway Company's Works at Swindon, in the room of C. W. Hind, Esq.

PASS LISTS.

Royal College of Surgeons. Members admitted at a special meeting, on *Wednesday, August 31st*, 1859:—

Bellamy, George, H.M. steamship *Hydra*, Plymouth
Cox, Richard, Aldermaston, near Reading, Berkshire

University of London. M.B. First Examination, 1859.

First Division.

Bankart, James, Guy's Hospital
Bastian, Henry Charlton, University College
Beddard, James, Guy's Hospital
Bird, John Durham, Royal Manchester School of Medicine
Buszard, Frank, Guy's Hospital
Chard, Octavius Edw. Peddle, University College
Evans, Alfred Wm. Armour, Guy's Hospital
Fagge, Charles Hilton, Guy's Hospital
Fortescue, George, King's College

Galton, John Henry, Guy's Hospital
Gee, Samuel Jones, University College
Grabham, Charles, St. Thomas's Hospital
Hewlett, Richard Whitfield, King's College
Holland, Edmund, University College
Huxley, James Usher, King's College
Jeaffreson, Horace, St. Bartholomew's Hospital
Miller, John Nicholas, University College
Ryland, Thomas Edmund, Sydenham College, Birmingham
Smith, William John, University College
Watts, Robert, Bengal Medical College, and University College

Second Division.

Barter, Clement Smith, St. Bartholomew's Hospital
Booth, Samuel, Royal Manchester and University
Brown, John Barr, King's College
Brown, Robert Charles, King's College
Ferguson, George, St. Bartholomew's Hospital
Hicks, George Augustus, King's College
Michell, Thomas, London Hospital
Stockwell, Frederick, St. George's Hospital
Taaffe, Richd. Patrick Burke, St. Bartholomew's Hospital

Apothecaries' Hall. Licentiates admitted on *Thursday, August 18th*, 1859:—

Chapman, E. G., Lingfield
Fernie, H. M., Yelden, Beds.
Heelas, Newton, Wokingham
Jardine, James B., Chatham
Love, J. H., Wolverhampton
Marsh, Henry T., Upton-on-Severn
Miller, T., Boyton, Suffolk

The following gentlemen, on the same day, passed their first examination:—

Booth, Samuel, jun., Huddersfield
Cronin, Eugene F., Brixton
Ellis, Thomas S., Upton-on-Severn
Grabham, C., Lonsdale Sq., N.
Hamerton, E., Elland, Yorks.
Huxley, J. U., Hart St., W.C.
Manning, Fredk. N., Milton, Northampton
Parker, Geo. F., Henley-on-Thames
Seaton, Daniel, Dorset Square
Travers, Wm., Poole

Thursday, August 25th.

Bird, John D., Stretford
Falwasser, Francis, Sherborne
Fennell, E. H., Ramsgate
Hayes, Robert H., Longton
Herbert, B. H., Edgbaston
Hicks, Robert
Kirby, T. C., Bodicott
Knight, Thomas, Brill
Llewellyn, David H., Malmesbury
Millard, W. J., Whitchurch, Hereford
Platt, Thomas, Oldham
Van, Arthur F., Northfleet

HEALTH OF LONDON—AUGUST 27th, 1859.

[From the Registrar-General's Report.]

	Births.	Deaths.
During week ..... {Boys .. 840 / Girls .. 870}	1710	1217
Average of corresponding weeks 1849-58 ..	1523	1120

Among the causes of death were—small-pox, 22; measles, 12; scarlatina, 78; diphtheria, 13; croup, 6; whooping-cough, 16; typhus, 46; diarrhœa, 215; cholera, 10; cancer, 31; consumption, 148; accident or negligence, 25; murder or manslaughter, 3; suicide, 5. The deaths from diarrhœa, in six weeks, have fallen from 415 in the week to 215.

Barometer:

Highest (Mon.) 30.139; lowest (Fri.) 29.615; mean 29.861 in.

Thermometer:

In sun—highest (Th.) 108°; lowest (Fri.) 80°.
In shade—highest (Th.) 91.3°; lowest (Mon.) 47.5°.
Mean—66.6°; difference from mean of 43 yrs. +6.4°.
Range—during week, 43.8°; mean daily, 26.4°.

Mean humidity of air (*saturation*=100), 67.

Mean direction of wind, N.W. & S.W.—Rain in inches, 0.25.

Another of the Bennett Gang. William Charles Allen was placed at the bar before Mr. Elliott, at the Lambeth Police Court, for final examination, on the charge of being concerned with Watters and Edwards in defrauding Mr. Benjamin Thos. Jones and others, by representing themselves as qualified medical practitioners, and undertaking to cure deafness and all other diseases. The prisoner's companions in guilt were tried at the Old Bailey, on the 4th of July last, for the offence, found guilty, and sentenced to eighteen months hard labour. The prisoner at the time managed to keep out of the way; but, having been brought here on another charge, he was recognised as the person against whom the grand jury had returned a true bill of indictment, as well as against his associates, Watters and Edwards. Inspector Young produced a certified copy of the indictment. Mr. Jones was sworn to identify the prisoner, and did so. Mr. Smith, the resident surgeon at the National Institution for the Cure of the Ear, etc., and who had been a witness on the former prosecution, addressing the magistrate, said he had been requested by Mr. Jones to ask his worship whether he, Mr. Jones, should be bound over and compelled to prosecute the prisoner. The reason Mr. Jones was anxious on the subject was this, that being a prosecutor in the former case, he was put to an expense of upwards of £60, which expense had nearly ruined himself and his family; and, if bound over in the present case, he must decline, as he could not afford it. Mr. Elliott observed that Mr. Jones must be bound over in the usual way to attend at the Old Bailey and give evidence in support of the bill of indictment, but not to employ counsel or go to any expense. A solicitor for the prisoner, in applying that his client might be admitted to bail, said he should be able to show on the trial that the two persons who had been convicted were the principals, and the prisoner the subordinate in the concern—in fact, merely the paid servant of the other two whose names had been mentioned. Mr. Elliott agreed to accept bail, two sureties in £200 each, with twenty-four hours notice, so that inquiries should be made as to their solvency and competency.

National Association for the Promotion of Social Science. The third annual meeting will be held in the West Riding of Yorkshire, at Bradford, on Monday, October 10th, and five following days. An influential local committee, presided over by the Mayor Bradford, has been formed in that town, to support the objects of the meeting; and steps have been taken in Leeds, Huddersfield, Sheffield, Wakefield, Doncaster, and other places, to secure the cooperation of the whole riding, and to bring before the Association the social condition, in its various aspects, of that extensive and populous district. Lord Brougham, at the request of the Council, has accepted the office of permanent President of the Council; and his lordship will, in that capacity, deliver an address at the Bradford meeting, reviewing the progress of the Association, and the leading questions of social interest that have arisen during the past year. The Earl of Shaftesbury has been chosen President of the Association. The Presidents of Departments are—for Jurisprudence, Vice-Chancellor Sir William Page Wood; for Education, the Right Hon. C. B. Adderley, M.P.; for Punishment and Reformation of Criminals, R. Monckton Milnes, Esq., M.P.; for Public Health, the Right Hon. William Cowper, M.P.; and for Social Economy, Sir James Kay Shuttleworth, Bart. The Department of Public Health is thus organised:—*President:* The Right Hon. W. Cowper, M.P. *Vice-Presidents:* H. W. Wickham, Esq., M.P.; J. Simon, Esq., F.R.S.; T. Southwood Smith, M.D. *Secretaries:* W. Farr, M.D., F.R.S.; Philip H. Holland, Esq. *Local Secretaries:* Dr. Macturk; H. F. Lockwood, Esq. Papers may be classed under the following heads:—1. *Condition of the Public Health.* The subjects, chiefly statistical, referred to this head, will comprise everything that relates to the past or present state of the public health. Papers descriptive of the general state of health of particular districts, or of the same districts at different periods or under different circumstances, and of persons engaged in the several industrial occupations, as well as of the special diseases to which particular localities and modes of life or of occupation are most liable, will be classed under this division. 2. *Causes which modify the Public Health.* To this head will be referred papers that treat of the causes which, whether favourably or injuriously, affect the public health; and the mode in which these causes act. This division will thus include the consideration of the production of disease by external causes to which persons, either individually or collectively, are liable to be exposed; such as climate, soil, locality, habitation, diet, occupation, station, or habit. 3. *Improvement of the Public Health.* Communications that suggest plans for the amendment of the public health, whether these have reference to legislative enactments, and the machinery requisite for the administration of sanitary law; to the removal of causes of disease by engineering or other mechanical appliances; or to the prevention of disease by hygienic precautions,—will be classed under this head. 4. *Social and Economical Aspects of Public Health.* This division will include inquiry into the effect of diminished death-rates upon the population—the effect of sanitary improvement on the national wealth, the diminution of pauperism, and the general moral and physical elevation of the community.